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Federal Communications Commission
Wireless Telecommunications Bureau
Chief, Public Safety and Private Wireless Division
445 12th Street, SW
Washington, D.C. 20554

Subject: WTB Docket No. 02-378, Region 2 – 700 MHz Regional Plan

Dear Sirs:

Attached is the Region 2 700 MHz Regional Plan for your review. This communications plan is the result of more than 3 years of work by the Region 2 Regional Planning Committee. We are confident that this plan best represents the immediate and future communications needs of all Public Safety and First Responders in the great State of Alaska. I would like to recognize and commend the many communications officials on the Regional Planning Committee that attended these meetings. Without their tireless effort, we wouldn't have been able to complete this plan.

It is our hope that this Plan will meet your approval and allow public safety agencies in Alaska access to this much needed spectrum. If you have any questions concerning this Plan, please feel free to contact me at (907) 269-5764.

 Respectfully submitted,

Dean Strid
Chairman
Region 2 RPC



Regional Plan for the Public Safety 700 MHz Band in Region 2 (Alaska)

Final Version
January 2008

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Preamble

In order to help alleviate major wireless radio congestion, the Federal Communication Commission (FCC) has released 60 MHz of television broadcast spectrum – channels 60-69 (746-806 MHz) for use to land mobile radios. In addition to alleviating the congestion for wireless radio systems, the FCC also hoped to provide public safety access to new technologies that may require additional use of bandwidth, and promote interoperability. To accomplish these goals, the FCC allocated this spectrum as follows: 24 MHz for public safety, 30 MHz for commercial use, and 6 MHz for guard band.

Within the 24 MHz of spectrum for public safety, the following is a breakdown of how that bandwidth can be used:

- 1.6 MHz allocated for interoperability
- 8.0 MHz allocated for general use
- 2.4 MHz state license
- 12.0 MHz national public safety license

The Regional Planning Committee (RPC) is tasked with the administration and management of the 8.0 MHz general use spectrum. The State of Alaska has a State Interoperability Executive Committee who is tasked with the administration and management of the interoperability spectrum.

Section 1 – Regional Planning Committee Leadership

At the time of adoption and transmittal, the following individuals serve in leadership roles in the Region 2 Regional Planning Committee (RPC):

Chairperson Dean Strid
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From time to time, as described in our By-Laws, these positions will be subjected to re-election. At any such time that one of these three positions changes hands, the Chair will be responsible for taking the following actions:

- Providing notice to the FCC of the changes
- Providing notice to the NPSTC Support Office of the changes
- Modifying the Region 2 CAPRAD web site to reflect the changes

Such changes will not be considered Plan modifications, and will not require that this document be reissued to the FCC for public notice and comment cycles. Appendix A is the bylaws adopted by the RPC.

Section 2 – Regional Planning Committee Membership

Appendix B of this Plan lists the Voting and Non-Voting membership in the Region 2 RPC and the meetings they have participated in up to the point that this Plan was submitted to the FCC for approval. This listing will be kept current for all future meetings after Plan submittal and filed with the Region 2 plan documents.

Section 3 – Description of the Region

3.1 General Description

Region 2 encompasses the entire state of Alaska, consisting of 27 county like areas. Alaska is a single planning region for both the 700 MHz and 800 MHz public safety bands. Region 2 is bordered by Canada on the East, the Pacific Ocean on the South, the Bering Sea on the West and the Arctic Ocean on the North.

The State of Alaska has diverse geography and a varied population base. Ground elevations range from sea level to 20,320 feet (6,194 meters). Topography and distance divide the state into areas that have uniquely different population distributions, economic conditions, and climates. While much of the state is composed of wilderness or rural areas, there are significant areas of urban and sub-urban development as well. Most of these are in the central portion of the state, and the most significant of these is in the south-central area, from Kenai and Soldotna in the south to Fairbanks in the north.

Anchorage is the largest city in this region and along with the cities of Fairbanks, Juneau, Palmer, Wasilla, Kenai, and Soldotna contain significant population areas in the state. Other key areas in the state include the Trans Alaska Pipeline from the North Slope to Valdez. Remaining areas of Alaska have small concentrated areas of population separated by vast areas of mountains and tundra with very sparse population.

The Fairbanks and Anchorage areas require the majority of spectrum to support public safety services. All types of public safety agencies and services are located in this region. It is anticipated the majority of requests for voice/data spectrum will be from the Fairbanks and Anchorage areas.

There are no adjacent regions to Alaska.



There are 27 county like areas in the state with populations indicated in the table below:

	4/1/2000 Census	Land Area Square Miles	Population Density (1/mi^2)	% of the State's Population
Alaska	626,932	571,395		
Anchorage	260,283	1,697	153.359	41.5%
Fairbanks-North Star	82,840	7,366	11.246	13.2%
Matanuska-Susitna	59,322	24,682	2.403	9.4%
Kenai Peninsula	49,691	16,013	3.103	7.9%
Juneau	30,711	2,717	11.305	4.9%
Bethel Census Area	16,006	40,633	0.394	2.6%
Ketchikan Gateway	14,070	1,233	11.409	2.2%
Kodiak Island	13,913	6,560	2.121	2.2%
Valdez-Cordova	10,195	34,319	0.297	1.6%
Nome	9,196	23,001	0.400	1.5%
Sitka	8,835	2,874	3.074	1.4%
North Slope	7,385	88,817	0.083	1.2%
Northwest Arctic	7,208	35,898	0.201	1.2%
Wade Hampton	7,028	17,193	0.409	1.1%
Wrangell-Petersburg	6,684	5,835	1.146	1.1%
Yukon-Koyukuk	6,551	145,900	0.045	1.0%
Southeast Fairbanks	6,174	24,815	0.249	1.0%
Prince of Wales	6,146	7,411	0.829	1.0%
Aleutians West	5,465	4,397	1.243	0.9%
Dillingham	4,922	18,675	0.264	0.8%
Skagway-Hoonah	3,436	7,896	0.435	0.6%
Aleutians East	2,697	6,988	0.386	0.4%
Haines	2,392	2,344	1.021	0.4%
Denali National Park	1,893	12,750	0.148	0.3%
Lake & Peninsula	1,823	23,782	0.077	0.3%
Bristol Bay	1,258	505	2.492	0.2%
Yakutat	808	7,650	0.106	0.1%

3.2 Overview of Public Safety Entities in the Region

Alaska has a long history of a somewhat populist culture in which the number of local government bodies tend to multiply. The following is a brief description of the most predominate entities in the Region that will need to be accommodated by this Plan in some fashion.

3.2.1 Federal Agencies

The Region has the typical presence of federal public safety agencies with added presences by some agencies due to the significant number of international ports and our border with Canada. There is also a significant military presence in the Region with several large military bases. Due to the significant amount of State and Federal forest lands and national parks in the Region, there is also a significant amount of interaction between state and local fire agencies and the various federal agencies involved in fire suppression activities.

3.2.2 State Agencies

The Alaska State Troopers, the State of Alaska Department of Transportation and the State of Alaska Department of Natural Resources all play significant roles in providing public safety services. Additional State agencies have roles in providing public safety services to residents of the State of Alaska. The Division of Enterprise Technology Services of the Department of Administration provides telecommunications services to state agencies and is responsible for the implementation of systems using the 2.4 MHz of state spectrum in the 700 MHz plan. The Division of Emergency Services of the Department of Military and Veterans Affairs is responsible for providing statewide coordination of resources during extreme emergency or disaster conditions.

3.2.3 Borough Agencies

Boroughs are the "counties" in Alaska. Boroughs are responsible for operating public health programs and some extend this into operating basic and advanced life support services directly to the public.

There are also the normal array of other governmental services offered by boroughs that contribute to the public safety, including the operation of schools, public works and roads agencies, surface water management functions, water systems, sewage and sewage treatment systems, bus and transportation systems, etc.

3.2.4 City Agencies

The police department is the most common public safety service provided by incorporated cities. Many cities also operate a fire department and typically

these fire departments offer basic life support (and occasionally advanced life support) EMS services. Some cities have not formed fire departments and instead receive fire protection from fire protection districts that often pre-date the formation of the city and have larger jurisdictional boundaries than the cities. Cities also often provide services such as roads and public works functions.

3.2.5 E-911 and PSAPs

The State of Alaska has established a fully enhanced system which allows the public safety answering points (PSAP) to know the address and location of the 911 caller when making a call through the local exchange telephone network. There are 19 primary PSAPs within the state, including the Alaska State Troopers. The state is also addressing the need for wireless 911 service. Wireless enhanced 911 service is broken down into Phase I and Phase II service. With Phase I service the call back number and cell sector is displayed in the PSAP for 911 calls. Phase II service provides the call back number and the latitude and the longitude of the 911 caller.

In addition to providing 911 service, designated PSAPs also serve as National Warning System (NAWAS) warning points and Emergency Alert System (EAS) entry points.

The following is a list of the Primary PSAP Centers in Alaska:

- Anchorage Fire Department Dispatch
- Anchorage Police Department PSAP
- City of Fairbanks Regional Dispatch / PSAP
- Fairbanks International Airport PSAP
- Fairbanks State Trooper Dispatch
- Juneau Police Department PSAP
- Kenai Police Department Dispatch
- Ketchikan State Trooper Dispatch
- Matcom Public Safety Dispatch
- Palmer Police Dispatch (9-G-Base PSAP)
- Petersburg Police Department Dispatch
- Seward Police Department Dispatch / PSAP
- Sitka Police Department Dispatch / PSAP
- Skagway Police Department Dispatch
- Soldotna State Trooper Dispatch
- Ted Stevens Anchorage Int'l Airport Dispatch
- University of Alaska Fairbanks Dispatch
- Valdez Police Department Dispatch / PSAP
- University of Alaska Anchorage Dispatch

3.2.6 Native Organizations

Native organizations in Alaska are often a complex set of interactive groups that may have both collective and independent goals and activities. The view from outside of the Native world may only see a small portion of a nation's representation by way of the usual media of radio, television, or newspapers.

In total, there are 13 Native regional corporations, 168 village corporations, 13 major regional non-profits, 226 traditional/IRA councils, four urban corporations, and Alaska's only reservation, Metlakatla. Alaska has 230 federally recognized tribal entities. Tribal sovereignty in Alaska is an extremely complex issue. For example, when receiving state funding, these entities are required to sign a Waiver of Sovereign Immunity. This also occurs when tribal entities request both state and federal disaster relief funds. As a result of this process, the State of Alaska typically applies funding and other resources directly to local organized government entities. While these resources aren't provided directly to tribal entities, the members of these entities receive direct benefit from local investments.

In order to ensure the Alaska Statewide Communications Interoperability Plan (SCIP) addresses the needs at the tribal level, the following governmental and non-governmental agencies provided input. These agencies provide for many of the public safety investments in Alaska that benefit tribal entities at the local level.

- Alaska State Trooper Village Public Safety Officer Program
- Division of Fire and Life Safety Code Red Program
- Alaska Regional EMS Council Directors
- Alaska Council on Emergency Medical Services
- Alaska Fire Chiefs Association
- Alaska Association of Chiefs of Police
- Alaska Native Tribal Health Consortium

3.3 Existing Interoperability and Mutual Aid Agreements

There are a significant number of established interoperability systems and standards in place within the State of Alaska. The listing below is relatively complete and provides users of this plan information about non-700 MHz interoperability opportunities in the Region.

- State wide public safety simplex – 155.250 MHz, is used for coordination between state and local police entities throughout the state. This mutual aid channel can be used by state and local public safety agencies at the scene of an incident using only mobiles and/or portables.

- State Command and Control – 155.295 MHz is for coordination of incidents by higher level responders. This frequency is managed by the State of Alaska Department of Military and Veterans Affairs. This is a mutual aid channel which can be used by state government entities and departments for command, control, and coordination at the scene of an incident.
- State wide emergency medical simplex – 155.160 MHz, is used for coordination between state and local emergency medical responders throughout the state. This is a mutual aid channel to be used when conducting emergency medical operations using only mobiles and portables.
- The State of Alaska, Department of Natural Resources, Division of Forestry works with federal (BLM) and local fire suppression agencies to respond to wild land fires. These agencies have developed and utilize interoperability plans when responding at the scene of an incident.
- NPSPAC 800 MHz Interoperability Channels – In addition to the above, Region 2 has adopted CALL and TAC channels in the NPSPAC band. The frequencies shown are post-rebanding and the channel names are from the NPSTC Channel Naming Report June 2007 (Appendix F).

National Calling Channel (8CALL90):	806/851.0125 MHz
National Working Channel (8TAC91):	806/851.5125 MHz
National Working Channel (8TAC92):	807/852.0125 MHz
National Working Channel (8TAC93):	807/852.5125 MHz
National Working Channel (8TAC94):	808/853.0125 MHz

Note 1: The 8CALL90 channel shall be used to contact other users in the Region for the purpose of requesting incident related information and assistance. If necessary, the calling party will be asked to move to one of the TAC channels for continuing incident operations or other interoperability communication needs. This channel can be implemented in full repeat mode.

Note 2: The ITAC channels are to be used primarily for coordination activity between different agencies in a mutual aid situation, or emergency activities of a single agency. Incidents requiring multi-agency participation will be coordinated over these channels by the agency controlling the incident. These channels can be implemented in full repeat mode.

- Nationwide VHF Interoperability Frequencies – Region 2 has adopted the following frequencies for public safety interoperability. The frequencies shown and the channel names are from the NPSTC Channel Naming Report June 2007.

National Calling Channel (VCALL10):	155.7525 MHz
National Working Channel (VTAC11):	151.1375 MHz
National Working Channel (VTAC12):	154.4525 MHz
National Working Channel (VTAC13):	158.7375 MHz
National Working Channel (VTAC14):	159.4725 MHz

Note 1: The VCALL10 channel shall be used to contact other users in the Region for the purpose of requesting incident related information and assistance. If necessary, the calling party will be asked to move to one of the VTAC channels for continuing incident operations or other interoperability communication needs.

Note 2: The VTAC channels are to be used primarily for coordination activity between different agencies in a mutual aid situation, or emergency activities of a single agency. Incidents requiring multi-agency participation will be coordinated over these channels by the agency controlling the incident.

- **Alaska Land Mobile Radio System (ALMR)** – A partnership of Federal, State, and Local public safety entities operates a wide area VHF Project 25 trunked radio network. This network is an APCO Level 6 interoperability standards-based shared system with coverage of areas in Alaska containing approximately 80 % of the state's population. There are numerous common talkgroups built and programmed into this system to provide interoperability between the various entities using the system. There are also numerous common conventional frequencies programmed into ALMR mobiles and portables for use on VHF repeaters and as simplex to use existing conventional infrastructure. This allows conventional VHF radio users to have interoperable communications with agencies that use the trunked system.
- **Hospital Emergency Administrative Radio (HEAR)** – 155.340 MHz is a common channel used by hospitals for communication with ambulance services for medical control. This channel can be used while at the scene or enroute to the emergency medical facility. Licensing for use of this channel is requested through the Federal Communications Commission (FCC).
- The State Interoperability Executive Committee (SIEC) has the responsibility to develop a plan of interoperability in the state. Appendix E is a copy of the current State of Alaska Interoperability Plan.

3.4 Impacts on Existing Plans as a Result of Adding 700 MHz Interoperability Channels

The addition of public safety systems in another frequency band will increase the overall interoperability challenges rather than lessen them. While in some circumstances, existing systems will be replaced by 700 MHz systems, in others 700 MHz systems will add to the communications options available in an area.

Therefore, it will be extremely important as new 700 MHz systems are planned and deployed for the sponsors of those systems to be well informed of other legacy systems in all other bands that are operating in their area, or in locations where they may be called upon to render mutual aid assistance. Since we will likely never see the day where all public safety communications systems operate in a single band and under a single technology, only good interpersonal communications and good system planning

will allow us to sustain reasonable levels of interoperability in an ever more complex environment.

The most common strategy that has been followed in the past, and this Plan anticipates will be followed in system deployments in this band, is the concept of new systems incorporating appropriate interoperability into their plans and designs, instead of expecting legacy systems to figure out how to operate with the new-comers. It is not enough for the new systems to meet the interoperability requirements within the Plan for that band (700 MHz or 800 MHz); they also need to provide mechanisms to interoperate with VHF and UHF users to a level that is appropriate for their operations.

Typically this is accomplished through some mix of fixed infrastructure or transportable equipment that can accomplish cross-band and cross-system patches. These approaches have proven to be effective in meeting many interoperability needs within this region and across the country, and this Plan anticipates further deployment of these technologies as systems are implemented in the 700 MHz band.

Section 4 – Information and Notification Process

Region 2 is comprised of the State of Alaska and political subdivisions. Sixty days prior to convening the initial 700 MHz Regional Planning meeting, notices were sent electronically to the FCC Wireless Telecommunications Bureau and the Associated Public Safety Communications Officials National Office.

After the initial meeting, notifications have been posted at various public safety websites in Alaska. Notifications have been distributed to all agency members that provided email addresses along with FCC Public Notices. Also, notifications have been distributed to all agency members of the ALMR system that provided email addresses.

The first meeting was scheduled and held on May 22nd, 2003 at the State of Alaska Information Technology Building, 5900 East Tudor Road, Anchorage, Alaska.

Section 5 – Regional Plan Summary

5.1 Procedure for Frequency Coordination

The RPC will initially utilize and refer to the frequency sort initiated by NPSTC and loaded into CAPRAD. The RPC has the ability to accept recommendations and the authority to change the original frequency sort that has been pre-loaded. In order to keep the most effective frequency allotments within Region 2, all frequencies will be available in all areas, subject to interference review and approval by the Technical sub-committee.

Applicants must submit an application to the RPC so the committee can ensure the application complies with all elements of the regional plan. The elements of this application are to be shown on FCC form 601. If approved, the RPC will make sufficient notification to the applicants selected FCC Certified Frequency Coordinators through the CAPRAD database. This process meets the requirements of Rule §90.176(c).

5.2 Technical Subcommittee

The primary responsibility of the Region 2 Technical subcommittee will be to review applications from agencies within the region for conformance to plan requirements. The Technical subcommittee will have access to the National Public Safety Telecommunications Council (NPSTC) Computer Assisted Pre-coordination and Resource Database System (CAPRAD) pre-coordination database system, and will review and recommend approval of applications, as they are received in the system. Applications approved by the RPC will be forwarded to the selected coordinator, then to the FCC for licensure. The membership of this committee will consist of the Technical subcommittee chairperson, and three other members of the RPC selected by the RPC chair. Membership of the Technical subcommittee will be determined at the annual meeting.

The Technical subcommittee duties are as follows:

- Review applications for compliance to the Region 2 Plan;
- Review appeals, applicant clarifications and applicant presentations;
- Recommend approval or denial to the RPC Chair;
- Maintain coordination with FCC certified frequency coordinators and advisors;
- Update CAPRAD;
- Work with the Alaska SIEC in the development of a statewide interoperability plan;
- Review application interoperability plans for conformance to the SIEC plan;
- Annually review and update the Region 2 plan as necessary;
- Monitor various system(s) implementation progress;
- Communicate with applicants to determine if implementation of their systems is in accordance with provisions of their applications;
- Make recommendations to the RPC on applicants that fail to implement systems.

5.3 Procedure for Requesting Spectrum Allotments

Upon completion and approval of this Plan by the FCC, requests for frequency assignments will be accepted. Agencies desiring allocations shall submit a request in writing to the Regional Planning Chairperson indicating their need for frequencies. The request will be considered as long as it provides no evidence of harmful interference to other users. Agencies need to provide justification for use of the spectrum. Requests will be considered on a first come first serve basis with the postmark as the tiebreaker. Other consideration taken into consideration for determination of the priority of application will be:

1. Users who are involved in the protection of life and property.
2. Multi-agency shared systems that multiple agencies agree to construct a common infrastructure (i.e. State, City, Borough and others).
3. Large agencies with multiple divisions constructing a common system for all to use (i.e. A large city or borough with multiple divisions).
4. Trunked use of the frequencies.
5. Approved funding to construct the system using the 700 MHz frequencies.
6. A statement of the future intentional actions of any currently licensed channels that will be replaced by a new 700 MHz system, and how it may benefit other agencies in Alaska by releasing these channels back into the Public Safety pool.
7. Implementation of national interoperability capability.

Agencies will need to fully document technical information, sites, tower heights, area of coverage, ERP of transmitter sites, along with any other technical information required for RPC subcommittee review and coordinator review. Agencies are expected to construct systems with maximum signal levels in their coverage area and minimum signal levels in co-channel user's coverage areas. Coverage area in the context of this plan will be defined as the geographical boundaries of agency(s) served by the system plus eight miles. The RPC realizes that radio signals don't stop at political borders. Our attempt is to maximize the use of the frequencies by packing as many users as possible per channel.

Upon completion of an initial review of the application, the RPC will forward copies to each of the existing 700 MHz users for concurrence by posting this information on CAPRAD. Should concerns exist the agency will reply in writing to the RPC Chairman for consideration by the technical committee. The agency applying will be allowed to make modifications to the application.

5.4 Adjacent Region Spectrum Allocation and Coordination

There are no adjacent regions to Alaska. Coordination along the Canadian border East of Line C will require coordination with the CRTC, (Canadian Radio-Television and Telecommunications Commission), through Public safety frequency Coordinators. A list of coordinators can be found on the FCC.gov web site, (<http://www.fcc.gov/pshs/public-safety-spectrum/coord.html#700800>).

5.5 Regional Plan Updates

Regional Plan updates will be performed by the Region 2 Technical subcommittee, and shall occur annually if necessary. The membership will consist of the Technical subcommittee chairperson and members of the Region 2 Planning Committee appointed by the RPC chair. Final approval of Regional Plan update will be approved during a general membership meeting. Upon approval, the updated plan will be submitted to the FCC for final review/approval if necessary.

5.6 Interoperability

Interoperability channels will be used in accordance with the NCC's recommendations.

Section 6 – Interoperability

6.1 Introduction

The ability for agencies to effectively respond to mutual aid requests directly depends on their ability to communicate with each other. The State of Alaska is subject to natural disasters such as floods, earthquake, and wild land fires and mutual aid is common among agencies. This plan seeks to facilitate the communications necessary for effective mutual aid.

The State of Alaska will administer the interoperability channels via its State Interoperability Executive Committee (SIEC) under National Coordination Committee's (NCC) guidelines. In addition to the role described within this document, Alaska's SIEC will be pursuing other activities relating to Interoperability outside of the 700 MHz spectrum, including assisting in the coordination of interoperability spectrum resources at VHF, UHF, and 800 MHz.

The State of Alaska adopts the ANSI/TIA 102 Standards, i.e. Project 25 digital protocols, as the Digital Interoperability Standard for the conventional-only mode of operation on the narrowband voice & data interoperability channels as adopted by the NCC. The State of Alaska adopts the NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels (Appendix F). Equipment using an alphanumeric display shall show the recommended label from the table in Appendix F when the radio is programmed to operate on the associated 700 MHz channel set.

There are 2 Calling channel sets and 30 Tactical channel sets. Channel sets are comprised of two 6.25 kHz channels each.

The Tactical channel sets are subdivided into the following categories for the State of Alaska:

- 4 for Emergency Medical Services
- 4 for Fire Services
- 4 for Law Enforcement Services
- 2 for Mobile Repeater operation
- 2 for Other Public Services
- 12 for General Services, and
- 2 for Data

While defined as intended for specific operational needs, the Tactical channel sets may be assigned for alternate uses by the Incident Commander. As an example, the Incident

Commander may find that a fire channel is the only Tactical channel resource constructed in an area where an EMS response is called for. Under these circumstances, functional reassignment of the channel may be made on a coordinated basis for the duration of the incident under direction of the Incident Commander.

6.2 Calling Channels

The State of Alaska operates two Calling channel sets. The Calling channels set designations within Alaska are "7CALL50" and "7CALL70" (Appendix F). These calling channel sets shall be monitored, on a 24 x 7 basis, by licensees who employ 700 MHz channels from the general use or state pool as a part of their infrastructure. When calling channels are integrated into infrastructure, their mobile coverage must at least match the coverage of the other channels in the system. In addition to the usual calling channel functions, the calling channels may be used to notify users when a priority is declared on one or more of the tactical interoperability channels.

6.3 Requirement for Infrastructure to Support Interoperability Channels

All agencies requesting more than four channels from the 700 MHz channel pool for normal operations will be required to implement at least one of the CALL channels in a repeater mode. This implementation shall normally provide mobile area coverage over essentially the same service area as the primary communications channel assignments. The SIEC may authorize reduced coverage where such a reduction is required due to good engineering standards, interference mitigation or other specialized requirements. This infrastructure may be configured to operate in a half duplex mode to minimize intra-system interference under routine conditions, provided however that a wireline equivalent connection delivers received audio to a dispatch point where 24 x 7 monitoring will take place. Approval of such operation also requires the ability for the dispatch point to re-enable normal repeater operation when so requested.

Agencies requesting nine to fourteen channels are required to establish similar infrastructure for at least one additional law enforcement and one additional fire/EMS interoperability channel. Systems requesting more than fifteen channels will require implementation of a CALL channel, one law enforcement channel, one fire channel, and one EMS channel.

Agencies are encouraged to provide for additional interoperability channels and improved grades of service beyond the requirements establish in this Section.

Bandwidth Licensed	Required Number of Interoperability Repeaters
0 to 50 kHz	None
62.5 to 100 kHz	1 Call Channel
112.5 to 175 kHz	1 Call Channel 1 Law Enforcement Channel 1 Fire/EMS Channel

> 187.5 kHz	1 Call Channel 1 Law Enforcement Channel 1 Fire Channel 1 EMS Channel
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6.4 Tactical Channels

All interoperability channels, except as described below, shall be used for conventional-only operation. Normally, users will 'call' a dispatch center on one of the "Call Channels" and be assigned an available tactical channel. Deployable narrowband operations (voice, data, and trunking) shall be afforded access to the same pool of channels used for similar fixed infrastructure operations. In the event of conflict between multiple activities, prioritized use shall occur. Use prioritization shall be:

1. Disaster and extreme emergency operations for mutual aid and interagency communications.
2. Emergency or urgent operation involving imminent danger to life or property.
3. Special event control, generally of a preplanned nature (including Task Force operations).
4. Single agency secondary communications. Priority 4 is the default when no higher priority has been declared.

6.5 Encryption

Use of encryption is prohibited on Calling channels and permitted on all other interoperability channels. In Alaska, the standardized encryption algorithm for use on the interoperability channels must be the Advanced Encryption Standard (AES). AES is the encryption algorithm currently used under federal, state, and local responses.

6.6 Deployable Systems

Alaska supports the use of deployable systems, both conventional and trunked. Deployable systems are prepackaged systems that can deploy by ground or air to an incident to provide additional coverage and capacity on interoperability channels. This strategy minimizes the expense of installing fixed infrastructure and recognizes the difficulty of providing complete coverage to Alaska due to many constraints.

General Public Safety Service Channels labeled 7TAC 51 through 7TAC 56, and 7TAC 71 through 7TAC 76, shall be available for "deployable" equipment used during disasters and other emergency events that place a heavy, unplanned burden upon in-place radio systems. Use of deployable conventional and trunked interoperability systems will be coordinated so as to minimize interference with permanently installed conventional interoperability infrastructure.

6.7 Trunking on the Interoperability Channels

Trunking the Interoperability channels for deployable or inactive, pre-positioned systems shall be permitted on a secondary basis to fixed conventional infrastructure. Such use shall be limited to operation on eight specific 12.5 kHz channel sets, divided into two subsets of four 12.5 kHz channels. One subset is defined by 7TAC 51 through 7TAC 54 and the other by 7TAC71 through 7TAC 74. Trunked operation on the Interoperability channels is intended to provide for heavy communications needs at specific locations and these channels are not intended to be used in the trunked mode for permanent operations. In future revisions to this Plan, the Alaska state SIEC anticipates developing additional plans which anticipate talkgroup structures, enabling the use of the interoperability spectrum for deployable or inactive, pre-positioned systems. Alaska elects not to permit 25 KHz trunking on the interoperability channels.

6.8 Standard Operating Procedures on the Trunked I/O Channels For I/O Situations Above Level 4

The safety and security of life and property determines appropriate interoperable priorities of access and/or reverting from secondary trunked to conventional operation. Access priority for "mission critical" communications shall be as follows:

1. Disaster and extreme emergency operations for mutual aid and interagency communications;
2. Emergency or urgent operation involving imminent danger to life or property;
3. Special event control, generally of a preplanned nature (including Task Force operations).
4. Single agency secondary communications. Priority 4 is the default priority when no higher priority has been declared.

The SIEC will determine whether a wide-area I/O conversation has priority over a local I/O conversation.

6.9 Data Only Use of the I/O Channels

Narrowband data-only interoperability operation on the Interoperability channels on a secondary basis shall be limited to two specific 12.5 kHz channel sets. One set is defined by 7DATA69 and the other by 7DATA89.

6.10 State Interoperability Executive Committees

The Alaska SIEC has adopted the Incident Command System (ICS) as a guideline in developing their regional interoperability plans.

The State of Alaska will hold the license on interoperability channels for all infrastructure and subscriber units within Alaska.

The State of Alaska will have oversight of the administration and technical parameters of the infrastructure for the interoperability channels within the state. The RPC recommends the use of the templates for a Memorandum of Understanding for Operating the 700 MHz Interoperability Channels (Appendix M) and a Sharing Agreement (Appendix N).

6.11 Minimum Channel Quantity

The minimum channel quantity for Calling and tactical channel sets requires 8 I/O channel slots in each subscriber unit. Including Direct (simplex) mode on these channel sets, up to 16 slots in each radio will be programmed for I/O purposes. Subscriber units, which routinely roam through more than one jurisdiction up to nationwide travel will require more than the minimum channel quantity.

The "CALL"ing channel sets (7CALL50 and 7CALL70) shall be implemented in all voice subscriber units in repeat-mode and direct (simplex) mode. "Direct" mode is permitted in the absence of repeat operation or upon prior dispatch center coordination. If the local CALLing channel set is not known, 7CALL50 shall be attempted first, then 7CALL70. Attempts shall be made on the repeater mode first then on the direct (simplex) mode.

A minimum set of "TAC"tical channels shall be implemented in every voice subscriber unit in the direct (simplex) mode. Specific channel sets are shown below.

7TAC56 and 7TAC75 channel sets
7MOB59 and 7MOB79 channel sets
7GTAC57 and 7GTAC77 channel sets

NOTE: Selection of the above TAC channels based on revised Table of Interoperability Channels. Channel labels are from Appendix F.

Voice subscriber units subject to multi-jurisdictional or nationwide roaming should have all I/O voice channels, including direct (simplex) mode, programmed for use.

6.12 Direct (Simplex) Mode

In direct (simplex) mode, transmitting and receiving on the output (transmit) side of the repeater pair for subscriber unit-to-subscriber unit communications at the scene does not congest the repeater station with unnecessary traffic. However, should someone need the repeater to communicate with the party who is in "direct" mode, the party would hear the repeated message, switch back to the repeater channel, and join the communications. Therefore, operating in direct (simplex) mode shall only be permitted on the repeater output side of the voice I/O channel sets.

6.13 Common Channel Access Parameters

Common channel access parameters will provide uniform I/O communications regardless of jurisdiction, system, manufacturer, etc. This national requirement shall apply to base stations and subscriber units. This shall apply to fixed or temporary operations. This shall apply to tactical, voice, or other mutual aid conventional I/O use. The secondary trunked interoperability channels are excluded in the trunked mode.

Common channel access parameters for all voice I/O shall utilize the default values (ANSI/TIA/EIA-102,BAAC-2000, approved April 25, 2000) provided in every radio regardless of manufacturer. Any common channel access parameters not provided shall be programmed accordingly. These parameters include the following:

P25 Network Access Code - \$293 (default value)
P25 Manufacturers ID - \$00 (default value)
P25 Designation ID - \$FFFFFF (designates everyone)
P25 Talkgroup ID - \$0001 (default value)
P25 Message Indicator \$000000... 0, out to 24 zeros (unencrypted)
P25 Key ID - \$0000 (default value)
P25 Algorithm ID - \$80 (unencrypted)

Any deviation from \$293 will not be permitted unless the SIEC (or the RPC) can demonstrate Plan amendment through the FCC-approved process that the intent of \$293 will be preserved on ALL conventional voice I/O channels – transmit and receive.

Section 7 – Additional Spectrum Set Aside for Interoperability in the Region

Due to the significant number of I/O channels already defined in the national planning structure, no additional I/O channels are defined at this time within Region 2. The RPC may reallocate some General Use channels for I/O use in the future if we find a need exists. If we do define additional regional I/O channels, they will fall under the same SIEC administration as the nationally defined I/O channels.

Section 8 – Allocation of General Use Spectrum

The initial allocation of spectrum in Region 2 has been based on the initial frequency packing done to populate the CAPRAD database. The initial spectrum allocation is provided in Appendix L.

Based on criteria described further in this section, and in Section 9, the Region 2 Regional Planning Committee will manage individual assignments to agencies within these areas.

The CAPRAD pre-coordination database and application flowchart will be used; see Appendix G. The RPC and the frequency coordinators are responsible for ensuring that

the information contained in the CAPRAD pre-coordination database is updated when licenses are granted or canceled and/or allotments changed.

8.1 General Provision

This portion of the plan provides a basis for proper spectrum utilization. Its purpose is to evaluate the implementation of 700 MHz radio communication systems within the region. Region 2 places greater emphasis on agencies that provide services that result in preserving personal life and property protection and such agencies will receive the highest priority.

For clarification purposes, a System is a standalone radio system that can be tied into a regional radio network. Region 2 will only evaluate Systems, and not evaluate an entire network of Systems. This will allow for an Entity to license and establish multiple Systems. Region 2 will recognize applications for Systems that will be developed at the same physical locations and providing services in the same areas, with greater than 67% overlapping coverage (based on a 40 dBu contour or area of operation for the mobile component) as a part of other Systems applied for or currently licensed by the same Entity as a single System. Applications for Systems that are developed at different locations and providing service to other areas and having less than 67% overlapping coverage (based on a 40 dBu contour or area of operation for the mobile component) are to be recognized as different Systems, even though they may be tied into the same radio network and control points. The advantage for this consideration is to allow for multiple conventional systems to be used by a regional communications network that would be separated by different areas of service. It is expected that an applicant will identify these conditions when application is made, to allow for an efficient and timely evaluation of the application. Within Region 2 are multiple communication centers that provide communications support for various agencies in geographically separate areas. Allowing for separate System development and definition in this manner will encourage the use of 700 MHz channels without the apparent penalties of needing to load each channel to the levels needed for each individual channel these entities may apply for. An Entity may then consider each System application as such and may use the same radio units for each System to qualify for loading requirements.

Systems operating in the Region 2 must comply with the FCC rules and regulations. A system of six (6) or more 12.5 kHz channels will be required to use trunking technology, as established in CFR 47, Part 90.537(a). This does not preclude that trunked systems cannot be authorized on less than six channels, or that if a system is to be constructed on six channels or greater, then it must be primarily designed as a standalone system or integrated into an existing trunked system, which can include any systems already constructed on NPSPAC 800 MHz channels.

Systems having five (5) or less 12.5 kHz channels shall be available for use as conventional channels. Systems that do not meet the loading criteria in Section 8.6 will be required to share the frequency (or frequencies) on a non-exclusive assignment

basis. The Technical subcommittee will make an effort to allow for interference protection between users if this situation exists, but will also allocate/approve use of these frequencies to users (inside and outside of Region 2) that can load channels as required, eventually changing the original licensee into a secondary user of the channels.

Channel allotments will be made on the basis of one 12.5 kHz channel for each voice channel request and one 12.5 kHz channel for each narrowband data channel request. This allows for agencies needs to be met but does not conform to the FCC intent to use technology that yields one voice path for each 6.25 kHz of spectrum. It is the responsibility of this committee to make applicants and the public safety community aware of the FCC's intent to migrate to 6.25 kHz technology.

While this plan does not limit an agency from initially implementing (if it conforms to FCC rules) a technology that yields less than one voice channel per 12.5 kHz channel or aggregating narrowband data into 25 kHz blocks, migration and an eventual mandate to 6.25 kHz voice/data technology should be anticipated by applicants.

Channels will be assigned, where possible, with a minimum of 250 kHz separation. A separation of 250 kHz provides sufficient spacing to achieve low combining losses similar to existing systems. Longer contiguous blocks or less separation between blocks could necessitate the use of higher-loss hybrid combiners, significantly raising the cost of deploying 700 MHz channels by increasing the number of RF sites required to achieve current 800 MHz RF coverage levels.

Allotments will be made in 25 kHz groups to allow for various digital technologies to be implemented. Agencies using Frequency Division Multiplexing (FDMA) will be expected to maintain 12.5 kHz equivalency when developing systems and will be required to utilize BOTH 12.5 kHz portions of the 25 kHz block. In most cases, this will require the geographical separation of each 12.5 kHz adjacent channel.

In order to promote spectrum efficiency, Region 2 will ensure that systems allocated 25 kHz channel blocks will utilize all of the channels and not "orphan" a portion of a system designated channel.

Region 2 encourages small agencies to join multi-agency systems as they promote spectrum efficiency and small and large agency capacity needs can be met.

8.2 Low Power Secondary Operations

To facilitate portable operation by any license, and to provide channels for such operation without impacting the use of primary channels, certain low power secondary use will be permitted. Any public safety entity otherwise licensed to use one or more channels under this plan may receive authorization to license any additional channel for secondary use, subject to the following criteria:

- All Operation of units on such authorized channels will be considered secondary to other licensees on both co-channel and adjacent channels.
- No channels on, or adjacent to, those designated in the Plan for wide area operation and/or mutual aid use will be authorized.
- Channels will be authorized for use in specific areas only, such areas to be within the licensees authorized operational area.
- Maximum power will be limited to 6 watts ERP.
- Applications for channels may be submitted to the Technical Committee for consideration at any time and must be accompanied by a showing of need. The committee may select and authorize licensing of these secondary use channels after consideration of potential interference to co-channel and adjacent channel allotments, allocations and licenses. Authorizations may be granted for use of any suitable channel, without prior allotment or allocations to the requesting agency.
- In the event the channels authorized for low power secondary operation are needed by others during any window opening for reassignment, no protection will be afforded to the licensed secondary user, and they may be required to change frequencies or surrender licenses to prevent interference to primary use channels.

8.3 Low Power Channels

The FCC in the 700 MHz band plan set aside channels 1–8 paired with 961–968 and 949–958 paired with 1909–1918 for low power use for the on-scene incident response purposed using mobiles and portables subject to Commission-approved regional planning committee regional plans. Transmitter power must not exceed 2 watts (ERP). Channels 9–12 paired with 969–972 and 959–960 paired with 1919–1920 are licensed nationwide for itinerant operation. Transmitter power must not exceed 2 watts (ERP).

These channels may operate using analog operation. To facilitate analog modulation this plan will allow aggregation of two 6.25 kHz channels for 12.5 kHz bandwidth. On scene temporary base and mobile relay stations are allowed (to the extent FCC rules allow) with an antenna height limit of 6.1 meters (20 feet) above the ground. However, users are encouraged to operate in simplex mode whenever possible. This plan does not limit use to only analog operations; these channels are intended for use in a wide variety of applications that may require digital modulation types.

In its dialog leading up to CFR §90.531 allocating the twenty-four low power 6.25 kHz frequency pairs (of which eighteen fall under RPC jurisdiction), the Federal Communications Commission (FCC) suggested that there is a potential for multiple low power applications, and absent a compelling showing, a sharing approach be employed

rather than making exclusive assignments for each specific application because low power operations can co-exist [in relatively close proximity] on the same frequencies with minimal potential for interference due to the 2 watt power restriction.

Whereas advantages exist in not making assignments, the reverse is also true. If, for example, firefighters operate on a specific frequency or set of frequencies in one area, there is some logic in replicating that template throughout the region for firefighter equipment. If there are no assignments, such a replication is unlikely. In seeking the middle ground with positive attributes showing up both for assignments and no assignments, we recommend the following regarding assignments associated with the eighteen narrowband channels for which the RPC has responsibility.

- Channel #'s 1-4 and 949-952 are set aside as *generic* channels for use by public safety agencies operating within Region 2, and the complementary channel #'s 961-964 and 1909-1912 are set aside as *generic* channels also for use by public safety agencies including GPS differential correction telemetry for channels 961–964 and 1909–1912 likewise operating within Region 2.
- Channel #'s 5-8 are designated as *Fire Protection / EMS* channels for licensing and exclusive use by the Fire Protection / Emergency Medical Services discipline, and the complementary channel #'s 965-968 are set aside as *Law Enforcement* channels also for licensing and exclusive use by the Law Enforcement discipline.
- Channel #'s 955-956 are set aside as *Fire Protection / EMS* channels for licensing and exclusive use by the Fire Protection / Emergency Medical Services discipline, and the complementary channel #'s 1915-1916 are set aside as *Law Enforcement* channels also for licensing and exclusive use by the Law Enforcement discipline. Channel #'s 957-958 are set aside as *Fire Protection / EMS / Law Enforcement*. Simplex operations may occur on either the base or mobile channels. Users are cautioned to coordinate on scene use among all agencies involved and should implement the NIMS (National Incident Management System). Users should license multiple channels and be prepared to operate on alternate channels at any given operational area.

8.4 System Implementation

After allocation of channels, the agency must sign a contract with a vendor within one year of channel allocation. If an agency does not implement in the timeframes specified, that agency's allotment may be removed from the allotment list. An Agency may file a request with the Region Chair for an extension of time to implement. The request should include all details describing why the agency has not implemented and a new implementation schedule. The Committee Chair will advertise this request and set a date for the full committee to vote on the request. If no request for extension is received or the Committee votes not to extend implementation, the Committee Chair will advertise this action and set a filing window to give other agencies a chance to request an allotment of that spectrum.

Should system implementation not begin within two (2) years or if projected planned channel loading is not attained within four (4) years after granting of license, the channels will be returned for re-allotment to others. A one (1) year extension may be supported by the RPC, if it can be shown that circumstances are beyond the control of the applicant. The applicant will be responsible for contacting the FCC to request an extension. Applicants must be acting to the extent of their power to implement the project within their authority.

8.5 Priority for Receiving Spectrum Allocations

Priority for channel allocations will be made on a first come first serve basis. Cooperative multi-agency system implementations will be given priority over non-shared single agency systems. Refer to Section 5.3 for priority list.

When applying for the new 700 MHz channels, the RPC expects applicants to relinquish any amount of any currently used spectrum and make that spectrum available for use by other agencies in Alaska upon beneficial use of an implemented 700 MHz radio system. This currently licensed spectrum may be in any public safety band.

Agencies with a primary voice communication system operating under a NPSPAC band 800 MHz license, which are requesting 700 MHz channels for system expansion, are not asked to relinquish this spectrum but will be asked to include this spectrum that is already licensed into the loading requirements for a radio system as defined in this plan. The reason for this requested inclusion is that most, if not all, radio equipment developed for the 700 MHz band is expected to be also capable of operation on any existing 800 MHz NPSPAC licensed systems already in use and will likely to be included in justification of the loading of NPSPAC channels. Without this inclusion, it would theoretically be possible for an agency to double its frequency spectrum allocations by applying for an equivalent number of 700 MHz channels, for each 800 MHz channel that it has already licensed and justified loading criteria for, and reuse the same mobile or portable users for both bands, to both planning committees, in Alaska. Although separated in FCC rules and regulations, Region 2 will work with NPSPAC planning committees to attempt to make the most efficient use of spectrum for Public Safety in Region 2.

Agencies are encouraged to relinquish frequencies that will no longer be used as soon as possible in accordance with FCC rules and regulations.

The number of channels an applicant should retain would be an amount required to provide minimum interoperable communications to surrounding jurisdictions. In order to promote the interests of agencies that will benefit from an applicant submitting a request for 700 MHz spectrum, it is requested that the applicant submit a list of all channels and licenses held on existing public safety channels, and those channels that will be expected to be unlicensed when full beneficial use of 700 MHz channels are realized. The RPC will only distribute this information, and not decide if it is sufficient

or not. It must be stressed that the Region 2 Regional Planning Committee supports and promotes multi-agency systems that allow for regional/wide-area coverage within the region.

8.6 Channel Loading

The RPC recognizes the FCC's increased focus on spectral efficiency standards versus absolute loading of each 700 MHz frequency assignment. It is however, the goal of the RPC to encourage efficient utilization of each frequency channel irrespective of bandwidth and therefore encourages the following:

- Each applicant for a trunked system should design their system for a minimum of 70 mobile or portable radios for each 12.5 kHz voice channel that will be placed in service within five (5) years of the initial plan approval date.
- Single conventional channels should be designed for a minimum load of 70 radios per 12.5 kHz channel. Mobile, portable, data, and control stations will all be considered within this count. Channel loading will eventually be required to change to 70 units per 6.25 kHz channel, when further narrowband technologies are available and when the FCC requires that 6.25 kHz is identified as a single voice channel (vs. 12.5 kHz at this time).

Section 9 Applicant Requirements and Evaluation

The applicant evaluation criteria established in the NCC process, and as further defined in this plan, will be followed for approval. All requests will be considered on a first come first serve basis. In cases, where specific frequency allotments are required by numerous applicants at the same time, the applicant evaluation matrix point system will be utilized to determine the successful applicant. In all cases, area of coverage, technical requirements, and channel loading criteria will be applied. Exceptions may apply upon unique circumstances, after review and approval by the RPC. Deviations from FCC rules are not to be approved unless a fully justified waiver request has been presented to the RPC. The Region 2 Technical subcommittee will evaluate and process applications within thirty (30) days after receipt.

The matrix has been prepared to enable consistent evaluation of plans and applications. Variations within the parameters of this plan and submitted applications and/or plans may require extensive evaluation. Therefore, it shall be responsibility of the RPC to evaluate each situation on its own merit.

Each applicant for a trunked system shall certify that a minimum of 70 field radios for each 12.5 kHz channel will be placed in service within five (5) years of the initial plan approval date. If that is not the case, then less than fully loaded channels shall be returned to the allotment pool and the licensee shall modify their license accordingly. Conventional channels shall be loaded to 70 mobile units per channel. Where an applicant does not load a channel to 70 radio/subscriber units, the channel will be

available for assignment to other licensees. Mobile, portable and control stations will be considered as mobile units.

9.1 Region 2 Application Requirements

Each application must contain the following:

- FCC ULS 601 Form(s)
- Explanation of the systems future growth for all agencies involved in the system, including how the system will be loaded and what equipment type and quantity is planned to be purchased to load the system.
- Explanation of the budget commitment for the proposed system.
- Statement of compliance the applicant's agency will conform with interoperability requirements of the SIEC plan;
- Any documentation that identifies intended radio channels the agency/entity will be abandoning through the FCC licensing processes, after full beneficial system use of allocated 700 MHz channels, for informational purposes only, and the benefit of other Entities with Region 2.
- Documentation that will assist the evaluation of the application against the Point Matrix system identified in Section 9.2

Applications will be submitted to the RPC for evaluation. Upon approval by the RPC the application will be forwarded to the Applicant's designated coordinator for technical review and any appropriate information will be uploaded to CAPRAD. Upon approval by the coordinator the Applicant may submit to the FCC for licensure. Any conflicts encountered during the licensing process, after Regional approval, the application will be returned to the RPC for resolution with the applicant.

9.2 Evaluation Matrix Point System

Region 2 will use a point system to determine approval priority of competing applications within the region. The maximum total points that can be achieved are 900. The applications receiving the highest point total will receive approval for the channels. Seven categories will be evaluated.

Where applicable, such as in multiple discipline shared systems, the points for all agencies utilizing the system are included in the total.

1. Service and Use (Maximum score 300 points)

<u>Service</u>	<u>Points</u>
Local	20
Borough	20
State	20
Federal	20

<u>Use</u>	<u>Points</u>
Criminal Justice/Law Enforcement/Crisis Mgmt	50
Fire/EMS	50
Special Emergency	40
Emergency Management	30
Forestry Conservation	30
Highway Maintenance	20

Maximum Total 300

Environmental protection will fall in the "Special Emergency" category and shall be considered for tasks that directly reduce contamination to the air, water or ground by chemicals or waste materials.

2. Interoperability Communications (Maximum score 100 points)

The application is scored on the degree of interoperability that is demonstrated, with a range of points from 0 to 100. This category will not rate the application on the inclusion of interoperability channels, but on its proposed actual ability to communicate with different levels of government and services during a time of emergency.

Each applicant is encouraged to have direct mobile-to-mobile communications among these radio type functions; local, state and federal in the criminal justice, fire/EMS, special emergency, emergency management, forestry, highway maintenance, and general government. All applicants will start with 100 points and points will be deducted based upon their lack of intersystem

communications. No points will be deducted if a plan or system has not yet been developed within their areas of service.

- Ten (10) points will be deducted for each radio service type function in which the applicant lacks intersystem communication, if direct mobile-to-mobile does not exist.
- Five (5) points for each radio service that the applicant lacks direct mobile-to-mobile communications.

3. Loading (Maximum score 150 points)

Those applicants who have demonstrated that they are part of or developing cooperative multi-agency system will be scored on a range from 0 to 150 points depending upon the extent of the cooperative system.

Mutli-agency trunked, fully loaded	101 – 150 points
Trunked system, fully loaded, single agency	76 – 100 points
Mobile data channel fully loaded/channel	76 – 100 points
Conventional system fully loaded/channel	0 – 75 points

Expansion of existing systems will be evaluated as to the aforementioned category they are in. Any system less than fully loaded will have its score multiplied by the proportion:

Fully loaded/channel is a 12.5 kHz channel with 70 radio units. Control channels shall be considered as data channels. Plans submitted to the RPC shall stipulate the number of voice communication channels and the number of data channel(s). These points will only be assigned to fully loaded systems that are planned and identified with the application package submittal.

4. Spectrum Efficiency (Maximum score 50 points)

The applicant will be scored on the degree of spectrum efficient technology that the system demonstrates. A trunked system will be considered a spectrum efficient technology as well as any technological systems feature that is designed to enhance the efficiency of the system and improve the efficient use of spectrum.

Spectrum efficiency points

Trunked or equally high efficient technology	50 points
Conventional system using data	50 points
Technologies that increases system throughput	50 points

5. System Implementation Factors (Maximum score 100 points)

This category scores the applicant on two factors, budgetary commitment and plan completeness. The degree of budgetary commitment is scored on a range from 0 to 50 points based on the RPC's evaluation of commitment demonstrated through documentation by the applicant and its funding source entity. A high degree of funding commitment will receive a higher score. Applicants will also be scored on the degree of plan completeness on a range from 0 to 50 points. Applicants must submit a timetable for the implementation of the system. Applicants should be aware of the "Slow Growth Plan" requirements outlined in the FCC rules.

Multi phase project with funds committed to all phases	50 points
Multi phase project plan completed for all phases	50 points

Applicants with less than complete funding commitment and/or incomplete plans will have their point score reduced accordingly. Resolutions, legislation, or other such documentation from governing entities shall be submitted with applications to support financial commitment.

6. System Density (Maximum score 100 points)

Each applicant's System will be scored on the level of geographic efficiency for requisite communications coverage for the applicant's jurisdictional area served or regional area served under agreement with other Agencies and/or defined communication requirements. Scoring will be based upon the defined radio coverage area of the application and the Entity's jurisdictional area (or required communication support areas). Region 2 recognizes that each Entity may not be required (by System or network users) to provide radio System communication support for all jurisdictional boundaries or areas that are supported by that Entity. This evaluation is to only weigh the efficiency of the applied for System against the required areas for communication support based on System user requirements or other Entity licensed or applied for Systems. Scores are based on the ratio multiplied by 100 with the maximum not to exceed 100 points.

Percentage of System operational area for applicant's jurisdictional area of responsibility for communications support x 100 = _____

7. Givebacks (Maximum 100 points)

This category will be based on the number of channels given back, the extent of availability, and usability of those channels to others.

Total evaluation points above add up to 900.

9.3 Application Processing

All applications will be processed in the most expeditious manner possible by the RPC. After Region 2 approval, the applications will be sent to the coordinator requested by the applicant. All documentation required by the designated coordinator selected in this process will be available through the CAPRAD system. Subsequent to coordination approval the FCC will grant the license(s) to the applicant.

Section 10 – An Explanation of How all the Region Eligibles' Needs were Considered, and to the extent possible met

As described elsewhere in this Plan, the initial allocation of channels in the narrowband general use category in Region 2 was made through the CAPRAD pre-packing process that utilized a combination of population, geography, and signal propagation parameters to determine channel distribution. Over the course of nine (9) meetings of the RPC during the drafting of the textual portions of this plan, participants were asked to comment on the spectrum needs of their agencies in the 700 MHz band and any agencies they were aware of in their geographic area. Consistently, the comments received indicated that there is adequate spectrum distribution across the Region to meet the foreseeable needs of the eligible users.

Section 11 – Evidence that the plan has been successfully coordinated with adjacent regions

There are no adjacent regions to Alaska, Region 2.

The area along the border of Alaska and Canadian is very sparsely populated. Adequate spectrum for public safety communications is available in this area.

The Region 2 RPC will work with the 821 RPC to encourage utilization of the 821 MHz allocation, where practical.

Section 12 – Detailed Description of How the Plan Put Spectrum to the best possible use

As described elsewhere in this Plan, the initial allocation of channels in Region 2 was made through the CAPRAD pre-packing process that utilized a combination of population, geography, and signal propagation parameters to determine channel distribution. Population is the most significant driver in predicting call for service demands on public safety agencies and call for service demand is one of the largest drivers in the need for spectrum. Terrain and distances are also factors for consideration for channel reuse and spectrum reutilization in the county-like areas of Region 2 which can contain thousands of square miles. These considerations will be taken during system design and coordination/licensing to assure the most efficient use of the spectrum and meet the spectrum demands of the public safety agencies within those areas.

The RPC believes that utilizing the CAPRAD pre-packing for initial channel allocation of the narrowband spectrum, on a county-area basis, and the subsequent filing-window processing of applications for specific channel assignments, will result in the most efficient use of the spectrum as well as meeting the broadest set of needs of the eligible users of the spectrum.

Section 13 – Detailed description of the future planning process, including but not limited to the amendment process, meeting announcements and minutes, database maintenance and dispute resolution

13.1 Future Planning & Minutes

Region 2 will use the CAPRAD website to post plan documents, Bylaws, meeting schedules, meeting minutes and application filing procedures.

13.2 Database Maintenance

Region 2 will use the NLECTC pre-coordination database, specifically designed for use in the 769-775/799-805 MHz public safety band. This database will contain frequency availability and preallotment.

The FCC's designated public safety frequency advisors will use the NLECTC pre-coordination database during the application process (pre-coordination). Frequency advisors, as well as RPCs, will be required to maintain the database as the applications are processed and granted by the Commission.

13.3 Regional Committee Dispute Resolution Process

13.3.1 Introduction

The Regional Committee is established under section 90.527 of the FCC's rules and regulations. It is an independent Committee apart from the Federal Communications Commission with authority to evaluate application for public safety uses of the spectrum allocated under FCC Docket 96-86. In addition, appeals from decisions made with respect to a variety of matters regulated by the Regional Committee will be heard. The formal requirements of the appeal process are set out below.

In order to ensure that the appeal process is open and understandable to the public, the Regional Committee has developed this procedure. Those involved in the appeal process can expect the Committee and its members to follow the procedures (as may be amended from time to time). Where any matter arises during the course of an appeal that is not dealt with in this document, the Committee will do whatever is necessary to enable it to adjudicate fairly, effectively and completely on the appeal. In addition, the Committee may dispense with compliance with any part or all of a particular procedure where it is appropriate in the circumstances. As the Committee gains experience, it will refine and, if necessary, change its policies. Any changes made to the procedure will require a modification to the Regional Plan and will be made available to the public.

The Regional Committee will make every effort to process appeals in a timely fashion and issue decisions expeditiously.

13.3.2 Appeals Committee

13.3.2.1 Members

The Regional Chair may organize the Committee into Sub-Committees, each comprised of one or more members, the Appeals Sub-Committee is one of those Sub-Committees.

Where an appeal is scheduled to be heard by this Sub-Committee the chair is determined as follows:

- (a) if the chair of the Committee is on the Sub-Committee, he/she will be the chair;
- (b) if the chair of the Committee is not on the Sub-Committee but the vice-chair is, the vice-chair will be the chair; and
- (c) if neither the chair nor the vice-chair is on the Sub-Committee, the Regional Committee will designate one of the members to be the chair.

13.3.2.2 Withdrawal or Disqualification of a Committee Member on the Grounds of Bias

Where the chair or a Committee member becomes aware of any facts that would lead an informed person, viewing the matter reasonably and practically, to conclude that a member, whether consciously or unconsciously, would not decide a matter fairly, the member will be prohibited from conducting the appeal unless consent is obtained from all parties to continue. In addition, any party to an appeal may challenge a member on the basis of real or a reasonable apprehension of bias.

13.3.2.3 Correspondence (Communicating) with the Committee

To ensure the appeal process is kept open and fair to the participants, any correspondence to the Regional Committee must be sent to the Chair and be copied to all other Committee members and other parties to the appeal, if applicable. Committee members will not contact a party on any matter relevant to the merits of the appeal, unless that member puts all other parties on notice and gives them an opportunity to participate. The appeal process is public in nature and all meetings regarding the appeal will be open to the public.

13.3.3 The Appeal Process

13.3.3.1 What can be appealed

The Committee hears appeals from a determination or allocation and shall include the following:

- number of channels assigned,
- ranking in the assignment matrix,
- interference,
- any other criteria that the region shall establish.

13.3.3.2 Who can appeal

An official of the entity who filed the original application to the Regional Committee must be the person who files the appeal on behalf of the entity.

13.3.3.3 How to appeal

A notice of appeal must be served upon the Regional Committee. The notice of appeal may be "delivered" by mail, courier, or hand delivered to the office of the Chair and Members of the Committee as listed in the Official Membership List. The Committee will also accept a notice of appeal by facsimile to the Chair and Secretary with the original copy of the notice of appeal served as indicated above.

Certain things must be included in a notice of appeal for it to be accepted. The notice of appeal **must** include:

1. The name and address of the appellant;
2. The name of the person, if any, making the request for an appeal on behalf of the appellant;
3. The address for service of the appellant;
4. The grounds for appeal (a detailed explanation of the appellant's objections to the determination - describe errors in the decision);
5. A description of the relief requested (What do you want the Committee to order at the end of the appeal?);
6. The signature of the appellant or the appellant's representative.

13.3.3.4 Time limit for filing the appeal

To appeal a determination or allocation the entity who is subject to the determination must deliver a notice of appeal **within three weeks** after receiving the decision. If a notice of appeal is not delivered within the time required, the right to an appeal is lost. However, the Committee is allowed to extend the deadline, either before or after its expiration based upon a majority plus one vote of the Committee.

13.3.3.5 Extension of time to appeal

The Committee has the discretion to extend the time to appeal either before or after the three week deadline. A request for an extension should be made to the Committee, in writing, and include the reasons for the delay in filing the notice of appeal and any other reasons which the requester believes support the granting of an extension of time to file the appeal. A request for an extension should accompany the notice of appeal.

In deciding whether to grant an extension, the Committee will consider whether fairness requires an extension. The Committee will take into account the length of the delay, the adequacy of the reasons for the delay, the prejudice to those affected by the delay and any impacts that may result from an extension. Other factors not identified could be relevant depending on the circumstances of the particular case.

13.3.3.6 Rejection of a notice of appeal

The Committee may reject a notice of appeal if:

- (a) it is determined that the appellant does not have standing to appeal;
- or
- (b) the Committee does not have jurisdiction over the subject matter or the remedy sought.

Before a notice of appeal is rejected, the Committee will inform the appellant of this in writing, with reasons, and give the appellant a three-week opportunity to make submissions and any potential parties with an opportunity to respond.

13.3.3.7 Adding parties to the appeal

In addition to the parties mentioned above, the Committee has the discretion to add any other person who may be “affected” by the appeal as a party to the appeal. Anyone wanting to obtain party status should make a written request to the Committee as early as possible. The written request should contain the following information:

- a. The name, address, telephone and fax number, if any, of the person submitting the request;
- b. A detailed description of how the person is “affected” by the notice of appeal and
- c. The reasons why the person should be included in the appeal; and
- d. The signature of the person submitting the request.

13.3.3.8 Intervener status

The Committee may also invite or permit someone to participate in a hearing as an intervener. Interveners are generally individuals or groups that do not meet the criteria to become a party (i.e. “may be affected by the appeal”) but have sufficient interest in, or some relevant expertise or view in relation to the subject matter of the appeal.

Someone wanting to take part in an appeal as an intervener should send a written request to the Committee. The written request should contain the following information: (to be determined by RPC)

Prior to inviting or permitting a person to participate in a proceeding as an intervener, or deciding on the extent of that participation, the Committee will provide all parties with an opportunity to make representations if they wish to do so.

13.3.3.9 Type of appeal (written or oral) hearing

An appeal may be conducted by way of written submissions, oral hearing or a combination of both. The Committee will determine the appropriate type of appeal after a complete notice of appeal has been received.

The Committee will normally conduct an oral hearing although it may order that a hearing proceed by way of written submissions in certain

cases. Where a hearing by written submissions is being considered by the Committee, the Committee may request input from the parties.

13.3.3.10 Burden of proof

The general rule is that the burden or responsibility for proving a fact is on the person who asserts it.

13.3.3.11 Notification of expert evidence

The Committee requires any party that intends to present expert evidence at a hearing to provide the Committee, and all other parties to the appeal, with reasonable advance notice that an expert will be called to give an opinion. The notice should include a brief statement of the expert's qualifications and areas of expertise.

If a party intends to produce, at a hearing, a written statement or report prepared by an expert, a copy of the statement or report should be provided to the Committee and all parties to the appeal within a reasonable time before the statement or report is given in evidence. Unless there are compelling reasons for later admission, expert reports should be distributed 30 days prior to the hearing date.

13.3.3.12 Documents

If a party will be referring to a document that was not provided to the Committee and all parties prior to the hearing, sufficient copies of the document must be brought to the hearing for the Committee and all other parties.


13.3.4 Appealing the Appeals Subcommittee's Decision

If a party is not satisfied with the decision of the Region's Appeals Subcommittee's Decision, he or she can appeal that decision to the 700 MHz National Planning Oversight Committee.

Section 14 – Certification by the Chairperson that Regional Planning Process was Open to the Public

I hereby certify that all Region 2 Regional Planning Committee meetings, including subcommittee or executive committee meetings were open to the public.

Signed 
Region 2 Chairperson

Witnessed 
Region 2 Vice Chairperson

Appendix A

700MHz

Regional Planning Committee

THE BYLAWS OF REGION - 2

July 24th, 2003

ARTICLE 1 NAME & PURPOSE

- 1.1 Name and purpose. The name of this Region shall be Region 2. Its primary purpose is to foster cooperation, planning, development of regional plans and the implementation of these plans in the 700 MHz Public Safety Band.

ARTICLE II MEMBERS

For purposes of this Article, the term “member,” unless otherwise specified, refers to both voting and non-voting members.

- 2.1 Number, Election and Qualification. The Regional Committee shall have two classes of members, “voting members” and “non-voting members.” New members may be added at annual, special, or regular meetings.

Voting Members. Voting members shall consist of one representative from any single agency engaged in public safety eligible to hold a license under 47 CFR 90.20, 47 CFR 90.523 or 47 CFR 2.103. Except that a single agency shall be allowed no more than one vote for each distinct eligibility category (e.g. police, fire, EMS, highway) within the agency’s organization or political jurisdiction. In voting on any issue the individual must identify himself/herself and the agency and eligibility category which he or she represents. Voting members may not vote on issues involving their entity.

Non-Voting Members. Non-voting members are all others interested in furthering the goals of public safety communications.

- 2.2 Tenure. In general, each member shall hold MEMBERSHIP from the date of acceptance until resignation or removal.
- 2.3 Powers and Rights. In addition to such powers and rights as are vested in them by law, or these bylaws, the members shall have such other powers and rights as the membership may determine.

2.4 Suspension and Removal. A representative may be suspended or removed with cause by vote of a majority of members after reasonable notice and opportunity to be heard. Failure to attend 50% of meetings held in a calendar year shall be a specific cause for removal from the membership.

2.5 Resignation. A member may resign by delivering written resignation to the chairman, vice-chairman, treasurer or secretary of the Regional Committee or to a meeting of the members.

2.6 Annual Meetings. The annual meeting of the members shall be held at the State of Alaska, ITG Building, 5900 East Tudor Road, on the third Wednesday of January, each year. If that date is a legal holiday or falls on a weekend where the meeting is to be held, then at the same hour on the next succeeding day not a legal holiday or weekend day.

If an annual meeting is not held as herein provided, a special meeting of the members may be held in place thereof with the same force and effect as the annual meeting, and in such case all references in these bylaws, except in this Section 2.6, to the annual meeting of the members shall be deemed to refer to such special meeting. Any such special meeting shall be called and notice shall be given as provided in Section 2.7 and 2.8.

2.7 Special Meetings. Special meetings of the members may be held at any time and at any place within the Regional Committee area. Special meetings of the members may be called by the chairman or by the vice-chairman, or in case of death, absence, incapacity, by any other officer or, upon written application of two or more members.

2.8 Call and Notice.

A. Annual meetings. Reasonable notice of the time and place of special meetings of the members shall be given to each member. Such notice need not specify the purposes of a meeting, unless otherwise required by law or these bylaws or unless there is to be considered at the meeting (i) amendments to these bylaws, (ii) an increase or decrease in the number of members, or (iii) removal or suspension of a member who is an officer.

B. Reasonable and sufficient notice. Except as otherwise expressly provided, it shall be reasonable and sufficient notice to a member to send notice by mail at least five days or by e-mail/facsimile at least three days before the meeting, addressed to such member at this or her usual or last known business address, or, to give notice to such member in person or by telephone at least three days before the meeting. (State notification requirements may differ.)

- 2.9 Quorum. At any meeting of the members, a majority of the officers and a minimum of one other voting member shall constitute a quorum. Any meeting may be adjourned to such date or dates not more than ninety days after the first session of the meeting by a majority of the votes cast upon the question, whether or not a quorum is present, and the meeting may be held as adjourned without further notice.
- 2.10 Action by Vote. Each voting member, representing a particular agency (one vote per agency) shall have one vote; non-voting members have no right to vote. When a quorum is present at any meeting, a majority of the votes properly cast by voting members present shall decide any question, including election to any office, unless otherwise provided by law or these bylaws.
- 2.11 Action by Writing. Any action required or permitted to be taken at any meeting of the members may be taken without a meeting if all members entitled to vote on the matter consent to the action in writing and the written consents are filed with the records of the meetings of the members. Such consents shall be treated for all purposes as a vote at a meeting.
- 2.12 Proxies. Voting members may vote either in person or by written proxy dated not more than one month before the meeting named therein, which proxies shall be filed before being noted with the secretary or other person responsible for recording the proceedings of the meeting. Unless otherwise specifically limited by their terms, such proxies shall entitle the holders thereof to vote at any adjournment of the meeting by the proxy shall terminate after the final adjournment of such meeting.
- 2.13 Voting on One's Own Application. At no time can a voting member vote on his/her application.
- 2.14 Special Interest Voting. A voting member can **not** have a commercial interest in any of his/her region and/or adjacent regions application(s) on which he/she is reviewing, approving and/or voting.

ARTICLE III OFFICERS AND AGENTS

- 3.1 Number and qualification. The officers of the Regional Committee shall be a chairman, vice-chairman, treasurer, secretary and such other officers, if any, as the voting members may determine. All officers must be voting members of the Regional Committee.
- 3.2 Election. The officers shall be elected by the voting members at their first meeting and, thereafter, at the annual meeting of the members.

3.3 Tenure. The officers shall each hold office until the annual meeting of the members held within one year from the adoption of these bylaws, or until their successor, if any, is chosen, or in each case until he or she sooner dies, resigns, is removed or becomes disqualified.

3.4 Chairman and Vice Chairman. The chairman shall be the chief executive officer of the Regional Committee and, subject to the control of the voting members, shall have general charge and supervision of the affairs of the Regional Committee. The chairman shall preside at all meetings of the Regional Committee.

The Vice Chairman, if any, shall have such duties and powers as the voting members shall determine. The vice-chairman shall have and may exercise all the powers and duties of the chairman during the absence of the chairman or in the event of his or her inability to act.

3.5 Treasurer. The treasurer shall be the chief financial officer and the chief accounting officer of the Regional Committee. The treasurer shall be in charge of its financial affairs, funds, and valuable papers and shall keep full and accurate records thereof.

3.6 Secretary. The secretary shall record and maintain records of all proceedings of the members in a file or series of files kept for that purpose, which file or files shall be kept within the Region and shall be open at all reasonable times to the inspection of any member. Such file or files shall also contain records of all meetings and the original, or attested copies, of bylaws and names of all members and the address (including e-mail address, if available) of each. If the secretary is absent from any meeting of members, a temporary secretary chosen at the meeting shall exercise the duties of the secretary at the meeting.

3.7 Suspension or Removal. An officer may be suspended with cause by vote of a majority of the voting members.

3.8 Resignation. An officer may resign by delivering his or her written resignation to the chairman, vice-chairman, treasurer, or secretary of the Regional Committee. Such resignation shall be effective upon receipt (unless specified to be effective at some other time), and acceptance thereof shall not be necessary to make it effective unless it so states.

3.9 Vacancies. If the office of any officer becomes vacant, the voting members may elect a successor. Each such successor shall hold office for the remainder terms, and in the case of the chairman, vice chairman, treasurer and clerk until his or her successor is elected and qualified, or in each case until he or she sooner dies, resigns, is removed or become disqualified.

ARTICLE IV AMENDMENTS

These bylaws may be altered, amended or repealed in whole or in part by vote. The voting members may by a two-thirds vote, alter, amend, or repeal any bylaws adopted by the Regional Committee members or otherwise adopt, alter, amend or repeal any provision which FCC regulation or these bylaws requires action by the voting members.

ARTICLE V DISSOLUTION

This Regional Committee may be dissolved by the consent of two-thirds plus one of the members in good standing at a special meeting called for such purpose. The FCC shall be notified.

ARTICLE VI RULES OF PROCEDURES

The Conduct of Regional Meetings including without limitation, debate and voting, shall be governed by Robert's Rules of Order, newly revised 1990 edition, ninth edition, Sarah Corbin Robert, Henry M. Robert III, and William J. Evans.

Appendix B

Region 2

700MHz Regional Planning Committee

<p>Dean Strid – Chair Communications Engineer State of Alaska - Dept of Admin IT Group 5900 East Tudor Road Anchorage, AK 99507 Tel: 907-269-5764 Fax: 907-269-5562 Email: dean_strid@admin.state.ak.us</p>	<p>Jerry Wilson – Vice-Chair Communications Foreman Municipality of Anchorage 3650 E. Tudor Rd., Bldg C Anchorage, AK 99507 Tel: 907-343-8375 Fax: 907-343-8201 Email: wilsonjl@ci.anchorage.ak.us</p>
<p>Andrew Good – Secretary Lead Dispatcher Anchorage Fire Department 100 E. 4th Anchorage, AK 99501 Tel: 907-267-5088 Fax: 907-267-4989 Pager: 907-762-0659 Cell: 907-232-8062 Email: goodaf@ci.anchorage.ak.us</p>	<p>Bruce Branlund Area Sales Manager Motorola, Inc. 2551 NW Champion Circle Bend, OR 97701 Tel: 541-383-3947 Email: bruce.branlund@motorola.com</p>
<p>Seth Burris Sales Manager REVL Communications & Systems 650 W. 58th Ave., Suite J Anchorage, AK 99518 Tel: 907-563-8302 Fax: 907-561-4720 Cell: 907-830-9068 Email: revlsale@pobox.alaska.net</p>	<p>Trygve Erickson Senior Account Manager Motorola, Inc. 3500 Stanford Drive Anchorage, AK 99503 Tel: 907-261-5150 Fax: 907-561-1803 Email: trygve.erickson@motorola.com</p>
<p>Peter Hambuch Strategic Business Manager Motorola, Inc. 6450 Sequence Drive San Diego, CA 92121 Tel: 858-404-4316 Fax: 858-404-2589 Pager: (866) 301-0630 Email: peter.hambuch@motorola.com</p>	<p>Jim Harpring Chief Information Officer SoA – Dpt of Milt & Vet Affairs P.O. Box 5800 – Building 49000 Fort Richardson, AK 99505 Tel: 907-428-7011 Cell: 907-244-2925 Email: jim_harpring@ak-prepared.com</p>

Appendix B

Region 2

700MHz Regional Planning Committee

<p>Kenneth Horn, SFC Spectrum Manager U.S. Army - 59th Signal Battalion 600 Richardson Drive Anchorage, AK 99505 Tel: 907-384-1005 Fax: 907-384-0124 Email: kenneth.horn@us.army.mil</p>	<p>Scott Hulse Senior Field Engineer Motorola, Inc. 739 E. 75th Avenue Anchorage, AK 99518 Tel: 907-261-5182 Fax: 907-561-3058 Pager: (800) 759-8888 PIN: 5857601 Email: scott.hulse@motorola.com</p>
<p>Electa Kreis Account Manager, Federal EFJohnson 4214 South 179th Street Omaha, NE 68135 Tel: 402-861-9181 Fax: 402-896-2364 Cell: 402-598-2486 Email: ekreis@efjohnson.com</p>	<p>Melissa Marshall Communication Engineer SoA – Dpt of Milt & Vet Affairs - OEM P.O. Box 5750 – Building 49000 – Ste B210 Fort Richardson, AK 99505 Tel: 907-428-7075 Fax: 907-428-7095 Email: melissa_marshall@ak-prepared.com</p>
<p>Dick McCart CFO & Director, Alaska Operations Frontier Systems Integrators, LLC 301 W. Northern Lights Blvd., Suite 444 Anchorage, AK 99503 Tel: 907-297-4554 Fax: 907-297-4544 Email: dick.mccart@frontier-si.com</p>	<p>Tim Michael Building & Plant Engineer Providence Alaska Medical Center 3200 Providence Drive P.O. Box 196604 Anchorage, AK 99519 Tel: 907-261-5000 Fax: 907-261-4875 Email: tmichael@provak.org</p>
<p>Lee Peterson PACMERS Alaska Project Manager Information Systems Support, Inc. 711 H Street, Suite 100 Anchorage, AK 99501 Tel: 907-279-7555 Fax: 907-279-7556 Cell: 907748-7445 Email: lpeterson@iss-md.com</p>	<p>Bruce Richter Program Manager NLECTC - Northwest 3000 C Street, Suite N304 Anchorage, AK 99503 Tel: 907-569-6934 Fax: 907-569-6939 Email: bruce.richter@ctsc.net</p>

Appendix B
Region 2
700MHz Regional Planning Committee

<p>Doug Robinson Radio Shop Supervisor Municipal Power & Light 1200 East 1st Avenue Anchorage, AK 99501 Tel: 907-263-5359 Fax: 907-263-5307 Email: robinsonda@ci.anchorage.ak.us</p>		<p>Dwayne Sakumoto Senior Account Manager Motorola, Inc. P.O. Box 230470 Anchorage, AK 99523 Tel: 907-261-5170 Fax: 907-343-4303 Email: d.sakumoto@motorola.com</p>
<p>Bill Doolittle 911 Insight 1100 Dexter Avenue North, #100 Seattle, WA 98109 Tel: 206-352-6172 Fax: 206-352-6173 Email: bill.doolittle@911insight.com</p>		<p>Robert Frey CESI 1010 College Rd. Fairbanks, AK 99701 Tel: 907-451-7987 Email: rfmaster@acsalaska.net</p>
<p>Dan Stearns MATCOM Manager City of Wasilla Police Dept. 1800 E. Parks Hwy. Wasilla, AK 99654 Tel: 907-352-5457 Email: dsteans@ci.wasilla.ak.us</p>		

Appendix C

Region 2: Alaska

County Like Areas

Aleutians East Borough
Aleutians West Census Area
Anchorage Borough
Bethel Census Area
Bristol Bay Borough
Denali National Park
Dillingham Census Area
Fairbanks-North Star Borough
Haines Borough
Juneau Borough
Kenai Peninsula Borough
Ketchikan Gateway Borough
Kodiak Island Borough
Lake & Peninsula Borough
Matanuska-Susitna Borough
Nome Census Area
North Slope Borough
Northwest Arctic Borough
Prince of Wales-Outer Ketchikan
Sitka Borough
Skagway-Hoonah-Angoon Census Area
Southeast Fairbanks Census Area
Valdez-Cordova Census Area
Wade Hampton Census Area
Wrangell-Petersburg Census Area
Yakutat Borough
Yukon-Koyukuk Census Area

Appendix C

Region 2: Alaska

County Like Areas

700 MHZ PUBLIC SAFETY DATABASE - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address http://caprad.nlectc.du.edu/caprad/go?p_cBrowser=Explorer_6.0 Go Links Norton AntiVirus

My Search Google AltaVista Ask Jeeves AlltheWeb LookSmart Customize this toolbar Highlight

COMPUTER ASSISTED PRE-COORDINATION
RESOURCE AND DATABASE SYSTEM NPSTC
National Public Safety
Telecommunications Council

Regional Plans

Logout New Region Documents FAQ ???

Select Area:

- Aleutians East Borough
- Entire Region-
- Provisional-
- Aleutians East Borough
- Aleutians West Census Area
- Anchorage Borough
- Bethel Census Area
- Bristol Bay Borough
- Dillingham Census Area
- Fairbanks-North Star Borough
- Haines Borough
- Juneau Borough
- Kenai Peninsula Borough
- Ketchikan Gateway Borough
- Kodiak Island Borough
- Lake & Peninsula Borough
- Matanuska-Susitna Borough
- Nome Census Area
- North Slope Borough
- Northwest Arctic Borough
- Prince of Wales-Outer Ketchikan
- Sitka Borough
- Skagway-Hoonah-Angoon Census Area
- Southeast Fairbanks Census Area
- Valdez-Cordova Census Area
- Wade Hampton Census Area
- Wrangell-Petersburg Census Area
- Yakutat Borough
- Yukon-Koyukuk Census Area

Region 2: Alaska

Internet

start Calendar - Micro... 700 MHZ PUBLIC ... ULS-GIS - Result S... Region 2 700MHz ... Document4 - Micro... 11:58 PM

Minutes of the Regional Planning Committee

January 23, 2008

Attendees: Dean Strid, Greg Berry, Trygve Erickson, William Doolittle, Scott Hulse and Dwayne Sakumoto. Dan Stearns participated by Telephone

Call to Order.

The recessed December 21 meeting of the Regional Planning Council (RPC) was called back to order by Chair Dean Strid at 1:35 PM January 23, 2008 at the Municipality of Anchorage Emergency Operations Center, 1301 E Street
Chair Strid confirmed that there was a quorum present and that the public had been properly notified of the meeting.

Approval of meeting minutes.

Minutes of the recessed December 21 meeting were approved without objection.

Old Business

Erickson moved and Berry seconded that the presented RPC Plan be adopted. Strid suggested that the reference to the SCEIP be removed from Appendix E. and the annual meeting described in section 2.6 be held the third Wednesday of January. Without objection those changes were incorporated.

Without objection it was

Resolved: As amended the Alaska RPC is adopted.

New Business

Scott Hulse presented a proposed frequency allocation plan for the Municipality of Anchorage system, commonly known as AWARD. After discussion it was agreed that the chair has the authority to appoint committees and may choose to have the RPC act as Technical Subcommittee.

Berry moved and Strid seconded adoption of the frequency allocation for AWARD. Without objection it was

Resolved: the presented frequency allocations for AWARD (Municipality of Anchorage) are accepted by the RPC acting as the Technical Subcommittee, contingent upon receipt by the chair of additional forms and documentation required by the Regional Plan.

Adjournment

There being no further business to come before the body the meeting was adjourned at 2:40PM



Municipality of Anchorage Office of Emergency Management

1305 E Street • Anchorage, AK 99501
Office: (907) 343-1401 • Fax: (907) 343-1441

December 21, 2007

700 MHz Regional Planning Committee meeting minutes from December 20, 2007

Attendees: Trygve Erickson, Heather Handyside, Dwayne Sakumoto, Jerry Wilson, Scott Hulse, Bill Doolittle, Dean Strid, Dan Stearns, Robert Frey, Gary Peters (*see attached sign-in sheet for complete contact information for participants*)

Officers in attendance:

- Dean Strid, SoA, Chair
- Jerry Wilson, MOA, Vice Chair
- Andrew Good, Secretary

Call to order.

The meeting was called to order at 1:10pm introductions were made. Dean Strid chaired the meeting.

Approval of meeting minutes

The last formal meeting occurred in July 2004. No minutes from that meeting were available. Scott Hulse moved to waive the approval of meeting minutes. Jerry Wilson seconded the motion and the motion carried.

Old Business

Dean Strid provided an update on the status of the development of the regional plan. He was assisted by Scott Hulse. Dean's presentation included:

- History of frequency
- Bandwidth
- Narrowband spectrum

Because the frequencies will change, the RPC Technical Subcommittee has met to discuss the changes and their impact on the plan currently in the process of being written. The Anchorage plan has not yet been submitted for approval which affords the group the opportunity to re-write the Anchorage plan to accommodate the changes.

Andrew Good is currently revising the plan. Andrew attended the meeting and provided an overview of the current version of the plan with edits recently incorporated from Dean Strid and other members of the group. Andrew made significant changes to the existing plan by switching from a plan that followed the Washington State template to a plan that followed the Arizona plan template. After much discussion, the group agreed that the streamlined template would be sufficient once edits were made and appendices added.

Scott Hulse presented a draft copy of the AWARD 700 MHz System RF and Site Information plan. The plan had been produced for the MOA frequencies based upon recommendations from Dean Strid. Scott indicated that the Technical Committee informally reviewed the plan and found it to be adequate for the needs of the MOA and not in conflict with any other current spectrum requests. The plan (spreadsheet) will be reviewed and approved at the next 700 Club meeting. The RPC reviewed the plan and identified potential conflicts and a few corrections to be made. Scott will work with Dean and Trygve to make requested changes and will then submit the plan for approval.

The proposed FCC 700/800 spectrum reallocation will impact the MOA AWARD system; however, that impact is perceived to be minimal. Equipment that was recently purchased from Motorola will have to be reprogrammed. The likely cost of that reprogramming could be \$50K. It has not been determined whether the equipment will be shipped back to the factory or will be reprogrammed by a technician on site. Trygve will work with Scott Hulse to determine the best solution.

State Interoperable Communications Strategic Plan

It was mentioned that SoA DHS&EM are circulating a Statewide Interoperable Communications Plan per a mandate from NTIA and DHS. Ideally, that plan should have compliment the FCC-mandated Statewide Interoperable Communications Plan. Upon initial review, the DHS&EM plan does not appear to include any spectrum information and may include inaccuracies. Members of the RPC promised follow-up with DHS&EM regarding this document. It was pointed out the DHS&EM created a Interoperability SubCommittee that was approved at the State Emergency Response Commission Meeting in Fairbanks in January.

Plan Review and update

The meeting included a great deal of technical discussion and edits that are captured in the attached draft plan (see items in RED). The entire group reviewed the plan, paragraph by paragraph, and reached consensus on all substantive items. It was agreed that Andrew good would make all recommended changes, work with Dean Strid to incorporate any final changes, and send the document to all attendees for final review by January 4, 2008.

Due to the extensive changes, Trygve Erickson suggested that the final version could be emailed to all members and voted upon electronically. Trygve Erickson suggested that the meeting be recessed until the RPC could review the final document. Trygve made a motion based upon those two items and the motion was approved.

The RPC recessed at 4:32pm.

Appendix D

Meeting Minutes

Strid, Dean L (DOA)

From: Hulse Scott-CHAW07 [Scott.Hulse@motorola.com]
Sent: Wednesday, January 16, 2008 11:33 PM
To: Paul Bernard
Cc: schmidttrt@muni.org; Strid, Dean L (DOA); Erickson, Trygve J.
Subject: FW: Region 2 RPC CAPRAD web site and meeting information
Attachments: Appendices - Alaska St Regional 700MHz Final Plan 1-16-2008 v2.0.pdf; Alaska St Regional 700MHz Final Plan 1-16-2008 v2.0.pdf

Paul - Please add the following Notice and the attachments to the CAPRAD web site

RaeShaun - Please add the notice and the attachments to the MUNI.org site.

Respectfully
Scott Hulse
739 E. 75th Ave
Anchorage, AK 99518
(907) 261-5182 Office
(907) 240-4028 Cell
(907) 561-3058 FAX

The Region 2, (Alaska), Regional Planning Committee meeting Notice.

On Wednesday January 23rd, the Region 2 700 MHz Regional Planning Committee meeting will re-convene at 1:30 p.m. at the Anchorage Emergency Operations Center facility located at 1305 E Street, Anchorage, Alaska.

Agenda:

- **Continued Final Review of the proposed:
Regional Plan for the Public Safety 700 MHz Band in Region 2 (Alaska).**
- **Approval for submittal of Plan to the FCC.**
- **Approval of Anchorage AWARD frequencies**

A review copy of the proposed Final Version, January 2008, will be posted on the CAPRAD Region 2 web site and at www.muni.org/oem .

Each of the Region 2 Public Safety Planning Committee meetings are open to the public. All eligible public safety providers in Alaska whose sole or principal purpose is to protect the safety of life, health, or property may utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend,

participate and represent their agency's needs.

All interested parties wishing to participate in the planning for the use of new public safety spectrum in the 700 MHz band within Region 2 should plan to attend. Region 2 welcomes all interested parties to attend, participate and volunteer for committee assignments. For further information on any of the Region 2 planning meetings, please contact:

Respectfully Submitted:

Dean Strid – Chair
State of Alaska – Dept of Admin IT Group
5900 East Tudor Road
Anchorage, AK 99507
907-269-5764 – office
907-269-5562 – fax
dean_strid@admin.state.ak.us

Region 2 (Alaska)
700MHz Regional Planning Committee
Meeting Agenda
December 20, 2007
1:00PM

Call to Order:

Introductions and roll call

Minutes:

Reading and approval of the previous meeting minutes.

Old Business:

Status of development of region plan

New Business:

FCC Rule Changes

700 MHz MOA License

700 City of Wasilla

Next Meeting

Adjournment



PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News media information 202 / 418-0500
Fax-On-Demand 202 / 418-2830
TTY 202 / 418-2555
Internet: <http://www.fcc.gov>
<ftp.fcc.gov>

DA 07-4693
November 21, 2007

PUBLIC SAFETY AND HOMELAND SECURITY BUREAU ACTION

REGION 2 (ALASKA) PUBLIC SAFETY REGIONAL PLANNING COMMITTEE TO HOLD 700 MHz PUBLIC SAFETY REGIONAL PLANNING COMMITTEE MEETING

The Region 2 (Alaska) 700 MHz Public Safety Regional Planning Committee will hold its next meeting on Thursday, December 20, 2007, beginning at 1:00 p.m., at the Municipality of Anchorage, Office of Emergency Management, 1305 E Street, Anchorage, Alaska.

The agenda for this meeting includes:

- Call to order
- Introductions
- Approval of agenda
- Public comment
- Old business
 - Plan status
 - Coordination with adjacent Regions
 - Computer Assisted Pre-coordination Resource and Database (CAPRAD)
 - Other
- New business
 - FCC changes
 - Frequency sort
 - Other
- Next meeting date
- Adjourn

The Region 2 Public Safety Regional Planning Committee meeting is open to the public. All eligible public safety providers whose sole or principal purpose is to protect the safety of life, health, or property in Region 2 may utilize these frequencies. It is essential that public safety agencies in all areas of government, including state, municipality, county, and Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's

rules, be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend, participate, and represent their agency's needs.

All interested parties wishing to participate in planning for the use of public safety spectrum in the 700 MHz band within Region 2 should plan to attend. For further information, please contact:

Dean Strid, Chairman
Region 2 700 MHz Public Safety Regional Planning Committee
5900 East Tudor Road
Anchorage, Alaska 99507
(907) 269-5764
dean_strid@admin.state.ak.us

Andrew Good, Secretary
Municipality of Anchorage
Anchorage Fire Department
1301 E. 80th Avenue
Anchorage, Alaska 99518
(907) 267-4950
goodaf@ci.anchorage.ak.us

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PUBLIC NOTICE

Federal Communications Commission
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Washington, D.C. 20554

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DA 07-4693
November 21, 2007

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All interested parties wishing to participate in planning for the use of public safety spectrum in the 700 MHz band within Region 2 should plan to attend. For further information, please contact:

Dean Strid, Chairman
Region 2 700 MHz Public Safety Regional Planning Committee
5900 East Tudor Road
Anchorage, Alaska 99507
(907) 269-5764
dean_strid@admin.state.ak.us

Andrew Good, Secretary
Municipality of Anchorage
Anchorage Fire Department
1301 E. 80th Avenue
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Washington, D.C. 20554

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DA 07-4693
November 21, 2007

PUBLIC SAFETY AND HOMELAND SECURITY BUREAU ACTION

REGION 2 (ALASKA) PUBLIC SAFETY REGIONAL PLANNING COMMITTEE TO HOLD 700 MHz PUBLIC SAFETY REGIONAL PLANNING COMMITTEE MEETING

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Dean Strid, Chairman
Region 2 700 MHz Public Safety Regional Planning Committee
5900 East Tudor Road
Anchorage, Alaska 99507
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dean_strid@admin.state.ak.us

Andrew Good, Secretary
Municipality of Anchorage
Anchorage Fire Department
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DA 07-4693
November 21, 2007

PUBLIC SAFETY AND HOMELAND SECURITY BUREAU ACTION

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The agenda for this meeting includes:

- Call to order
- Introductions
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- Old business
 - Plan status
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 - Other
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The Region 2 Public Safety Regional Planning Committee meeting is open to the public. All eligible public safety providers whose sole or principal purpose is to protect the safety of life, health, or property in Region 2 may utilize these frequencies. It is essential that public safety agencies in all areas of government, including state, municipality, county, and Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's

rules, be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend, participate, and represent their agency's needs.

All interested parties wishing to participate in planning for the use of public safety spectrum in the 700 MHz band within Region 2 should plan to attend. For further information, please contact:

Dean Strid, Chairman
Region 2 700 MHz Public Safety Regional Planning Committee
5900 East Tudor Road
Anchorage, Alaska 99507
(907) 269-5764
dean_strid@admin.state.ak.us

Andrew Good, Secretary
Municipality of Anchorage
Anchorage Fire Department
1301 E. 80th Avenue
Anchorage, Alaska 99518
(907) 267-4950
goodaf@ci.anchorage.ak.us

-FCC-

700MHz Regional Planning Committee Region 2 (Alaska) Meeting Agenda

Date: July 22, 2004
Time: 1500 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Roll Call: Melissa Marshall – SOA - Dept of Military and Veterans Affairs
Bruce Richter – NLECTC - Northwest
Dean Strid – State of Alaska
Scott Hulse – Motorola Communications
Steven Gehring – NLECTC - Northwest
Tim Michael – Providence Alaska Medical Center

Meeting call to order at 1500 hrs by Chair D.Strid.

Minute Review – The previous meeting minutes review.

Old Business:

D.Strid discussed with the Committee some of the state and local interoperability procedures.

Chenega Technology Services Corporation is assessing the statewide interoperability plan. The assessment will be presented to the RPC during the next scheduled meeting.

D. Strid suggested reviewing this assessment for inclusion into the 700 MHz plan.

D. Strid will work on the 700 MHz interoperability plan for review at the next scheduled meeting.

Next meeting will be Thursday, Oct 7, 2004 to be held at NLECTC – 3000 C Street, Anchorage, AK.

New Business:

APCO meeting announcement.

Denver Regional Planning Colloquium, Denver, Colorado, Aug. 24 and 25

Meeting adjournment at 1600hrs.

**4.9GHz
Regional Planning Committee
Region 2 (Alaska)
Meeting Agenda**

Date: July 22, 2004
Time: 1330 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Roll Call: Melissa Marshall – SofA - Dept of Military and Veterans Affairs
Dean Strid – State of Alaska
Scott Hulse – Motorola Communications
Steven Gehring – NLECTC - Northwest
Tim Michael – Providence Alaska Medical Center

Meeting call to order at 1330 hrs by Chair D.Strid.

Minute Review – The previous meeting minutes review.

Old Business:

M. Marshall will write the 4.9GHz conflict resolution procedures.

The 4.9GHz RPC will meet one more time to approve the conflict resolution procedures.

Any subsequent meetings will only be called in the event that conflict resolution is required.

Discussion of proposed rule making extending time for 4.9 GHz planning and emission mask changes.

This is the final planning meeting.

Meeting adjournment at 1500 hrs.

June 7, 2004

WIRELESS TELECOMUNICATIONS BUREAU ACTION
REGION 2 (ALASKA) PUBLIC SAFETY
PLANNING COMMITTEES ANNOUNCE
REGION 2 (4.9 GHz) REGIONAL PUBLIC SAFETY PLANNING MEETING
AND
REGION 2 (700 MHz) REGIONAL PUBLIC SAFETY PLANNING MEETING

The Region 2 (Alaska) Regional Planning Committees announce two Region 2 planning meetings.

On Thursday, July 22nd, 2004, the Region 2, 4.9 GHz Regional Planning Committee meeting will convene at 1:30 p.m. at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

Topics to be discussed will be:

- Final Review of the 4.9GHz conflict resolution procedures to be added as an appendix to the 700 MHz plan.

Immediately following on Thursday, July 22nd, 2004, the Region 2, 700 MHz Regional Planning Committee meeting will convene at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

The agenda for this meeting includes:

- Review of the statewide interoperability plan as assessed by Chenega Technology Services Corporation.
- Review the channel allotments for the Alaska county-like areas

Each of the Region 2 Public Safety Planning Committee meetings is open to the public. All eligible public safety providers in Alaska whose sole or principal purpose is to protect the safety of life, health, or property may utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend, participate and represent their agency's needs.

All interested parties wishing to participate in the planning for the use of new public safety spectrum in the 700 MHz band and 4.9 GHz band within Region 2 should plan to

attend. Region 2 welcomes all interested parties to attend, participate and volunteer for committee assignments. For further information on any of the Region 2 planning meetings, please contact:

Respectfully Submitted:

Andrew Good – Secretary
Region 2: Alaska
700MHz Regional Planning Committee

Dean Strid – Chair
State of Alaska – Dept of Admin IT Group
5900 East Tudor Road
Anchorage, AK 99507
907-269-5764 – office
907-269-5562 – fax
dean_strid@admin.state.ak.us

700MHz Regional Planning Committee Region 2 (Alaska) Meeting Minutes

Date: June 3, 2004
Time: 1500 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Attendees: Melissa Marshall – SOA - Dept of Military and Veterans Affairs
Bruce Richter – NLECTC - Northwest
Dean Strid – State of Alaska
Scott Hulse – Motorola Communications
Steven Gehring – NLECTC - Northwest
Tim Michael – Providence Alaska Medical Center

Meeting was called to order at 1500 hrs by Chair D.Strid.

Minute Review – The previous meeting minutes were not read.

Old Business:

D.Strid discussed with the Committee some of the state and local interoperability procedures.

Chenega Technology Services Corporation is assessing the statewide interoperability plan. The assessment will be presented to the RPC during the next scheduled meeting.

D. Strid suggested reviewing this assessment for inclusion into the 700 MHz plan.

D. Strid will work on the 700 MHz interoperability plan for review at the next scheduled meeting.

Next meeting will be Thursday, July 22nd, 2004 to be held at NLECTC – 3000 C Street, Anchorage, AK following the 4.9GHz Sub-Committee meeting.

Meeting was adjourned at 1600hrs.

4.9GHz Initial Regional Planning Committee Region 2 (Alaska) Meeting Minutes

Date: Jun 3, 2004
Time: 1330 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Attendees: Melissa Marshall – SofA - Dept of Military and Veterans Affairs
Dean Strid – State of Alaska
Scott Hulse – Motorola Communications
Steven Gehring – NLECTC - Northwest
Tim Michael – Providence Alaska Medical Center

Meeting was called to order at 1345 hrs by Chair D.Strid.

Minute Review – The previous meeting minutes were not read.

Old Business:

D.Strid again voiced a concern about FCC not waiting for any recommendation from a local body for licensing. It was determined that the RPC will solely be tasked to assist in conflict resolution. Therefore no 4.9GHz plan will be developed. A 4.9 GHz conflict resolution procedure will be added as an appendix to the 700 MHz plan.

M. Marshall will write the 4.9GHz conflict resolution procedures.

The 4.9GHz RPC will meet one more time to approve the conflict resolution procedures. Any subsequent meetings will only be called in the event that conflict resolution is required.

Next and final planning meeting will be Thursday, July 22nd, 2004 at 1:30PM to be held at NLECTC – 3000 C Street, Anchorage, AK.

Meeting was adjourned at 1445 hrs.

700MHz Regional Planning Committee Region 2 (Alaska) Meeting Agenda

Date: July 22, 2004
Time: 1500 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Roll Call: Melissa Marshall – SOA - Dept of Military and Veterans Affairs
Bruce Richter – NLECTC - Northwest
Dean Strid – State of Alaska
Scott Hulse – Motorola Communications
Steven Gehring – NLECTC - Northwest
Tim Michael – Providence Alaska Medical Center

Meeting call to order at 1500 hrs by Chair D.Strid.

Minute Review – The previous meeting minutes review.

Old Business:

D.Strid discussed with the Committee some of the state and local interoperability procedures.

Chenega Technology Services Corporation is assessing the statewide interoperability plan. The assessment will be presented to the RPC during the next scheduled meeting.

D. Strid suggested reviewing this assessment for inclusion into the 700 MHz plan.

D. Strid will work on the 700 MHz interoperability plan for review at the next scheduled meeting.

Next meeting will be Thursday, Oct 7, 2004 to be held at NLECTC – 3000 C Street, Anchorage, AK.

New Business:

APCO meeting announcement.

Denver Regional Planning Colloquium, Denver, Colorado, Aug. 24 and 25

Meeting adjournment at 1600hrs.

**4.9GHz
Regional Planning Committee
Region 2 (Alaska)
Meeting Agenda**

Date: July 22, 2004
Time: 1330 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Roll Call: Melissa Marshall – SofA - Dept of Military and Veterans Affairs
Dean Strid – State of Alaska
Scott Hulse – Motorola Communications
Steven Gehring – NLECTC - Northwest
Tim Michael – Providence Alaska Medical Center

Meeting call to order at 1330 hrs by Chair D.Strid.

Minute Review – The previous meeting minutes review.

Old Business:

M. Marshall will write the 4.9GHz conflict resolution procedures.

The 4.9GHz RPC will meet one more time to approve the conflict resolution procedures.

Any subsequent meetings will only be called in the event that conflict resolution is required.

Discussion of proposed rule making extending time for 4.9 GHz planning and emission mask changes.

This is the final planning meeting.

Meeting adjournment at 1500 hrs.

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Online Public Notice

State of Alaska

Public Notices Region 2 (Alaska) Regional Planning Committee Meetings

Submitted by: Richard Turcic/DAS/DMVA

Date Submitted: 06/07/2004 12:51 PM

Date Modified:

Ak Admin Journal: [not printed]

Attachments: No files attached

Region 2 (Alaska) Regional Planning Committee Meetings

Category: Agency Meetings
Publish Date: 06/07/2004

Department: Administration
Location: Anchorage
Coastal District: N/A

Body of Notice:

The Region 2 (Alaska) Regional Planning Committees announce two Region 2 planning meetings.

On Thursday, July 22nd, 2004, the Region 2, 4.9 GHz Regional Planning Committee meeting will convene at 1:30 p.m. at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

Topic to be discussed will be:

Final Review of the 4.9GHz conflict resolution procedures to be added as an appendix to the 700 MHz plan.

Immediately following on Thursday, July 22nd, 2004, the Region 2, 700 MHz Regional Planning Committee meeting will convene at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

The agenda for this meeting includes:

Review of the statewide interoperability plan as assessed by Chenega Technology Services Corporation.

Review the channel allotments for the Alaska county-like areas

Each of the Region 2 Public Safety Planning Committee meetings is open to the public. All eligible public safety providers in Alaska whose sole or principal purpose is to protect the safety of life, health, or property may utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend, participate and represent their agency's needs.

All interested parties wishing to participate in the planning for the use of new public safety spectrum in the 700 MHz band and 4.9 GHz band within Region 2 should plan to attend. Region 2 welcomes all interested parties to attend, participate and volunteer for committee assignments. For further information on any of the Region 2 planning meetings, please contact:

Respectfully Submitted:

Andrew Good
Secretary
Region 2: Alaska
700MHz Regional Planning Committee

Dean Strid
Chair
State of Alaska
Dept of Admin IT Group
5900 East Tudor Road
Anchorage, AK 99507
907-269-5764 Office
907-269-5562 Fax
dean_strid@admin.state.ak.us

Revision History:

06/07/2004 12:51:08 PM by Richard Turcic/DAS/DMVA/State/Alaska/US
\$\$WebClient [Anon]

[Home Page](#) [Notices by: Department | Category | Publish Date](#)

700MHz Regional Planning Committee

Region 2 (Alaska)

Meeting Minutes

Date: June 3, 2004
Time: 1500 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Attendees: Melissa Marshall – SOA - Dept of Military and Veterans Affairs
Bruce Richter – NLECTC - Northwest
Dean Strid – State of Alaska
Scott Hulse – Motorola Communications
Steven Gehring – NLECTC - Northwest
Tim Michael – Providence Alaska Medical Center

Meeting was called to order at 1500 hrs by Chair D.Strid.

Minute Review – The previous meeting minutes were not read.

Old Business:

D.Strid discussed with the Committee some of the state and local interoperability procedures.

Chenega Technology Services Corporation is assessing the statewide interoperability plan. The assessment will be presented to the RPC during the next scheduled meeting.

D. Strid suggested reviewing this assessment for inclusion into the 700 MHz plan.

D. Strid will work on the 700 MHz interoperability plan for review at the next scheduled meeting.

Next meeting will be Thursday, July 22nd, 2004 to be held at NLECTC – 3000 C Street, Anchorage, AK following the 4.9GHz Sub-Committee meeting.

Meeting was adjourned at 1600hrs.

4.9GHz Initial Regional Planning Committee Region 2 (Alaska) Meeting Minutes

Date: Jun 3, 2004
Time: 1330 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Attendees: Melissa Marshall – SofA - Dept of Military and Veterans Affairs
Dean Strid – State of Alaska
Scott Hulse – Motorola Communications
Steven Gehring – NLECTC - Northwest
Tim Michael – Providence Alaska Medical Center

Meeting was called to order at 1345 hrs by Chair D.Strid.

Minute Review – The previous meeting minutes were not read.

Old Business:

D.Strid again voiced a concern about FCC not waiting for any recommendation from a local body for licensing. It was determined that the RPC will solely be tasked to assist in conflict resolution. Therefore no 4.9GHz plan will be developed. A 4.9 GHz conflict resolution procedure will be added as an appendix to the 700 MHz plan.

M. Marshall will write the 4.9GHz conflict resolution procedures.

The 4.9GHz RPC will meet one more time to approve the conflict resolution procedures. Any subsequent meetings will only be called in the event that conflict resolution is required.

Next and final planning meeting will be Thursday, July 22nd, 2004 at 1:30PM to be held at NLECTC – 3000 C Street, Anchorage, AK.

Meeting was adjourned at 1445 hrs.



PUBLIC NOTICE

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Internet: <http://www.fcc.gov>
<ftp.fcc.gov>

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 04-1097
April 28, 2004

WIRELESS TELECOMMUNICATIONS BUREAU ACTION

REGION 2 (ALASKA) PUBLIC SAFETY PLANNING COMMITTEES ANNOUNCE REGION 2 (4.9 GHz) REGIONAL PUBLIC SAFETY PLANNING MEETING AND REGION 2 (700 MHz) REGIONAL PUBLIC SAFETY PLANNING MEETING

The Region 2 (Alaska) Regional Planning Committees announce two Region 2 Public Safety planning meetings.

On Thursday, June 3, 2004, the Region 2 4.9 GHz Regional Planning Committee will convene at 1:30 p.m. at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

JULY 22, 2004 13:30

Topics to be discussed will be:

1. Final Review of the proposed allocation document and
2. Review of information learned from the FCC concerning the issuing of 4.9 GHz licenses to public safety agencies.

MELISSA TO DO PLAN 4.9 GHz RESOLUTION

Immediately following on Thursday, June 3, 2004, the Region 2 700 MHz Regional Planning Committee meeting will convene at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

JULY 22, 2004

The agenda for this meeting includes:

1. Review of the SoA Interoperability Plan that would be included in the overall 700 MHz Regional Plan, including naming conventions,
2. Review of the proposed 700 MHz Regional Plan for the Public Safety 700 MHz band in

- Region 2,
3. Review of the 800 MHz Regional Plan for Purposes of including the 700 MHz Regional Plan and
 4. Review the chanel allotment for the Alaska county-like areas.
- JERRY NOT HERE.

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All interested parties wishing to participate in the planning for the use of new public safety spectrum in the 700 MHz band and 4.9 GHz band within Region 2 should plan to attend. Region 2 welcomes all interested parties to attend, participate and volunteer for committee assignments. For further information on any of the Region 2 planning meetings, please contact:

Dean Strid, Chairman
Region 2, 700 MHz Regional Planning
5900 East Tudor Road
Anchorage, AK 99507
907-269-5764 – office
907-269-5562 – fax
dean_strid@admin.state.ak.us

- FCC -

APPENDIX C – Meeting Notifications



PUBLIC NOTICE

News media information 202 / 418-0500
Fax-On-Demand 202 / 418-2830
TTY 202 / 418-2555
Internet: <http://www.fcc.gov>
<ftp.fcc.gov>

**Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554**

DA 04-635
March 9, 2004

WIRELESS TELECOMMUNICATIONS BUREAU ACTION

REGION 2 (ALASKA) PUBLIC SAFETY PLANNING COMMITTEES ANNOUNCE

REGION 2 (4.9 GHz) REGIONAL PUBLIC SAFETY PLANNING MEETING AND REGION 2 (700 MHz) REGIONAL PUBLIC SAFETY PLANNING MEETING

The Region 2 (Alaska) Regional Planning Committees announce two Region 2 Public Safety planning meetings.

On Wednesday, April 21, 2004, the Region 2 4.9 GHz Regional Planning Committee meeting will convene at 1:30 p.m. at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

Topics to be discussed will be:

1. Review of the proposed allocation document, and
2. Submission to the FCC.

Immediately following on Wednesday, April 21, 2004, the Region 2 700 MHz Regional Planning Committee meeting will convene at 3:00 p.m. at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

The agenda for this meeting includes:

1. To address the needs of the 700 MHz spectrum users including Public Safety, Public Health, and Emergency Management and Utility services and to review the regional plan as prepared by the work group, which is seeking recommendations and/or approval of their submittal,
2. Status on the plan review process of the Region 2 700 MHz regional plan.
3. Overview of application process and coordination of 700 MHz Public Safety access via the CAPRAD database.

Each of the Region 2 Public Safety Planning Committee meetings is open to the public. All eligible public safety providers in Alaska whose sole or principal purpose is to protect the safety of life, health, or property may utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend, participate and represent their agency's needs.

All interested parties wishing to participate in the planning for the use of new public safety spectrum in the 700 MHz band and 4.9 GHz band within Region 2 should plan to attend. Region 2 welcomes all interested parties to attend, participate and volunteer for committee assignments. For further information on any of the Region 2 planning meetings, please contact:

Dean Strid, Chairman
Region 2, 700 MHz Regional Planning
5900 East Tudor Road
Anchorage, AK 99507
907-269-5764 – office
907-269-5562 – fax
dean_strid@admin.state.ak.us

- FCC -

APPENDIX C - continued

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Online Public Notice

State of Alaska

Public Notices Region 2 (4.9 GHz) and (700 MHz) Regional Public Safety Planning Meetings

Submitted by: Richard Turcic/DAS/DMVA

Date Submitted: 03/22/2004 10:07 AM

Date Modified: 03/22/2004 10:15:18 AM

Ak Admin Journal: [not printed]

Attachments: No files attached

Region 2 (4.9 GHz) and (700 MHz) Regional Public Safety Planning Meetings

Category: Agency Meetings
Publish Date: 03/22/2004

Department: Administration
Location: Anchorage
Coastal District: N/A

Body of Notice:

The Region 2 (Alaska) Regional Planning Committees announces two Region 2 Public Safety planning meetings.

On Wednesday, April 21, 2004, the Region 2 4.9 GHz Regional Planning Committee meeting will convene at 1:30 p.m. at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

Topics to be discussed will be:

1. Review of the proposed allocation document, and
2. Submission to the FCC.

Immediately following on Wednesday, April 21, 2004, the Region 2 700 MHz Regional Planning Committee meeting will convene at 3:00 p.m. at the National Law Enforcement and Corrections Technology Center facility located at 3000 C Street, Anchorage, Alaska.

The agenda for this meeting includes:

1. To address the needs of the 700 MHz spectrum users including Public Safety, Public Health, and Emergency Management and Utility services and to review the regional plan as prepared by the work group, which is seeking recommendations and/or approval of their submittal.
2. Status on the plan review process of the Region 2 700 MHz regional plan.
3. Overview of application process and coordination of 700 MHz Public Safety access via the CAPRAD database.

Each of the Region 2 Public Safety Planning Committee meetings is open to the public.

All eligible public safety providers in Alaska whose sole or principal purpose is to protect the safety of life, health, or property may utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend, participate and represent their agency's needs.

All interested parties wishing to participate in the planning for the use of new public safety spectrum in the 700 MHz band and 4.9 GHz band within Region 2 should plan to attend. Region 2 welcomes all interested parties to attend, participate and volunteer for committee assignments. For further information on any of the Region 2 planning meetings, please contact:

Dean Strid, Chairman
Region 2, 700 MHz Regional Planning
5900 East Tudor Road
Anchorage, AK 99507
907-269-5764 ? office
907-269-5562 ? fax
dean_strid@admin.state.ak.us

Revision History:

03/22/2004 10:07:25 AM by Richard Turcic/DAS/DMVA/State/Alaska/US

03/22/2004 10:15:18 AM by Richard Turcic/DAS/DMVA/State/Alaska/US

\$\$\$WebClient [Anon]

[Home Page](#) Notices by: [Department](#) | [Category](#) | [Publish Date](#)

Region 2 (Alaska)
700MHz Regional Planning Committee
Meeting Agenda
January 20th, 2004
3:00PM

Call to Order: 3:10

Minutes:

Reading and approval of the December 10 2003 meeting minutes.

Old Business:

Status of development of appendixes:

700 MHz Coordination Planning Committee (Appendix G)

4.9 GHz Coordination Planning Committee (Appendix J)

State of Alaska Interoperability (Appendix E)

800 MHz Frequency Plan (Appendix I)

Field Strength Prediction plan

New Business:

MARCH 2

1:30

4.9

Adjournment

3:00

7:00

WEDNESDAY

APRIL 21ST

1:30

4.9 GHz

1:30 PM → 3:00 PM

Regional Plan Element	Check	Rule Section	See Section #	
An explanation of how the RPC decided how the spectrum would be allocated, e.g. by population; how applications were solicited, e.g. on a first-come, first-served basis or only during certain filing windows. An explanation of channel recovery methods will be applied w/in the Region.		90.527(a)(4)		
A description of how the applications are handled and reviewed, including an explanation of how the RPC applies the evaluation criteria listed in item 3		90.527(a)(4)		
Spectrum utilization agreements with other Regions		90.527(a)(5)		
If the State bears responsibility for administering the interoperability channels, the Regional Plan must indicate how the Region will interact with the SIEC or similar body. If the RPC is responsible for administering the I/O channels, see the check points below the bold type.		90.525(b)		
Description of the pre-coordination allotment method used at the Region's borders		90.527(a)(5)		
Concurrence from the Chairs of the adjacent Regions OR evidence that the RPC used the NCC Implementation Subcommittee's 'pre-planning proposal' to reserve some portion of the 700 MHz spectrum at the RPC borders for the adjacent Region(s).		90.527(a)(5)		
If any of the adjacent Regions have not yet convened or selected a convener, the Plan must include a waiver of 90.527(a)(5)		90.527(a)(5)		
An explanation of how the RPC encouraged spectrum re-use and promoted spectrally efficient technologies to make the most efficient use of the spectrum		90.527(a)(6)		
An explanation of how the RPC will maintain the pre-coordination database, provide opportunities for future modifications of the plan		90.527(a)(7)		
Inter-Regional Dispute Resolution agreements signed by the Chair of the Adjacent Region(s)		90.527(a)(7)		
A certification by the RPC chair that all RPC meetings were open to the public		90.527(a)(8)		
Signature of the RPC chair		90.527(a)(8)		
The following items would constitute a Section that would be required only if the RPC had assumed responsibility for administering the 700 MHz Interoperability Channels				
If the RPC bears responsibility for administering the interoperability channels, Section 9 of the Regional Plan must include: 1) a list of the interoperability channels; 2) a definition of when and where the two calling channels are to be used, including monitoring requirements; 3) description of how the interoperability channels will be deployed and used in the Region, including procedures to extract interoperability channels being used in the trunked mode when necessary; channel nomenclature, minimum channel quantity, channel access parameters; 4) priority access levels to be used on the interoperability channels		90.525(b)		
Description of existing interoperability contracts, compacts, mutual aid agreements, etc.		90.525 (b)		
Description of the effect of the addition of 700 MHz channels and interoperability requirements on existing plans		90.525(b)		

Regional Plan Element	Check	Rule Section	See Section #	
Cover letter referencing Docket # 02-378 and identifying the document as the 700 MHz Regional Plan for the Region		Public Notice DA-02-3497		
Name, Title, address, phone number, agency affiliation, email address of Chairperson		90.527(a)(1)		
Names, agency affiliations, voting status, mailing addresses, phone numbers, email addresses (if available) of other RPC officers		90.527(a)(1)		
A statement that at least 60 days notice was given prior to the first meeting		1st R&O, FN220		
A summary of the major elements of the plan and an explanation of how all eligible entities w/in the Region were given an opportunity to participate and have their positions heard and considered fairly.		90.527(a)(2)		
Definition of the Region and its boundaries, a list of the counties and cities within the boundaries		90.527(a)(2)		
Overview of public safety entities that have jurisdiction within or over any or all portions of the Region (state agencies, federal agencies, etc.)		90.527(a)(2)		
Description of the types of public safety, law enforcement, government, public service, or other entities (federal, county, regional, city, town etc.) that are included in the Region.		90.527(a)(2)		
The dates and publications in which the meetings were announced		90.527(a)(2)		
The dates and websites on which the meetings were announced		90.527(a)(2)		
A description of the process by which comments were solicited from all eligible parties		90.527(a)(2)		
Summary of all comments and submissions obtained through the process		90.527(a)(2)		
A description of the process used to consider comments submitted from concerned parties		90.527(a)(2)		
The guidelines and procedures for operation of the RPC		90.527(a)(2)		
The procedures for frequency coordination		90.527(a)(2)		
Guidelines and procedures for protection of incumbent TV/DTV stations within the Region or near the Region's border during the DTV transition period		90.527(a)(2)		
A copy of the RPC's bylaws		90.527(a)(3)		
The technical procedures for requesting channels		90.527(a)(3)		
An overview of the application process		90.527(a)(3)		
An explanation of how the RPC decided between competing agencies when more requests for spectrum were received than could be filled. What criteria was used to evaluate competing applications to determine which request was granted?		90.527(a)(3)		

Regional Plan Element	Check	Rule Section	See Section #	
Descriptions of the Region's interoperability plans and interoperability requirements		90.525(b)		

Regional Plan Element	Check	Rule Section	See Section #	
Cover letter referencing Docket # 02-378 and identifying the document as the 700 MHz Regional Plan for the Region		Public Notice DA-02-3497		
Name, Title, address, phone number, agency affiliation, email address of Chairperson		90.527(a)(1)		
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Description of the types of public safety, law enforcement, government, public service, or other entities (federal, county, regional, city, town etc.) that are included in the Region.		90.527(a)(2)		
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An explanation of how the RPC decided how the spectrum would be allocated, e.g. by population; how applications were solicited, e.g. on a first-come, first-served basis or only during certain filing windows. An explanation of channel recovery methods will be applied w/in the Region.		90.527(a)(4)		

Regional Plan Element	Check	Rule Section	See Section #	
A description of how the applications are handled and reviewed, including an explanation of how the RPC applies the evaluation criteria listed in item 3		90.527(a)(4)		
Spectrum utilization agreements with other Regions		90.527(a)(5)		
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Description of the pre-coordination allotment method used at the Region's borders		90.527(a)(5)		
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If any of the adjacent Regions have not yet convened or selected a convener, the Plan must include a waiver of 90.527(a)(5)		90.527(a)(5)		
An explanation of how the RPC encouraged spectrum re-use and promoted spectrally efficient technologies to make the most efficient use of the spectrum		90.527(a)(6)		
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Inter-Regional Dispute Resolution agreements signed by the Chair of the Adjacent Region(s)		90.527(a)(7)		
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Description of existing interoperability contracts, compacts, mutual aid agreements, etc.		90.525 (b)		
Description of the effect of the addition of 700 MHz channels and interoperability requirements on existing plans		90.525(b)		
Descriptions of the Region's interoperability plans and interoperability requirements		90.525(b)		

MEETING AGENDA

Call to order:

Introductions and roll will be taken.

Minutes:

Reading and approval of the previous meeting minutes.

Old Business:

- 1) By laws to be incorporated into plan as appendix.
- 2) Use of CAPRAD database for Region 2 plan and coordination data.
- 3) 4.9 GHz Plan

New Business:

- 1) Native community outreach
- 2) Coordination requirements
- 3) Field strength prediction

Next Meeting:

To be determined

Adjournment:

MEETING AGENDA

Call to order:

Introductions and roll will be taken. ✓

Minutes:

Reading and approval of the previous meeting minutes.

July 29, 2003

Old Business:

- 1) By laws to be incorporated into plan as appendix.
- 2) Use of CAPRAD database for Region 2 plan and coordination data.
- 3) 4.9 GHz Plan
- 4) TECHNICAL COMMITTEE

JAN. 20, 2004

New Business:

- 1) Native community outreach
- 2) Coordination requirements
- 3) Field strength prediction

Next Meeting:

To be determined

JAN. 20, 2004

Adjournment:

3:00 PM

AFTERNOON

1:30 PM

4.9 GHz

3:00 PM

700 MHz

INTEROPERABILITY PLAN

800 MHz PLAN

4.9 GHz PLAN

1:30 PM

1:30 PM

BRING
LAPTOPS

A BY L

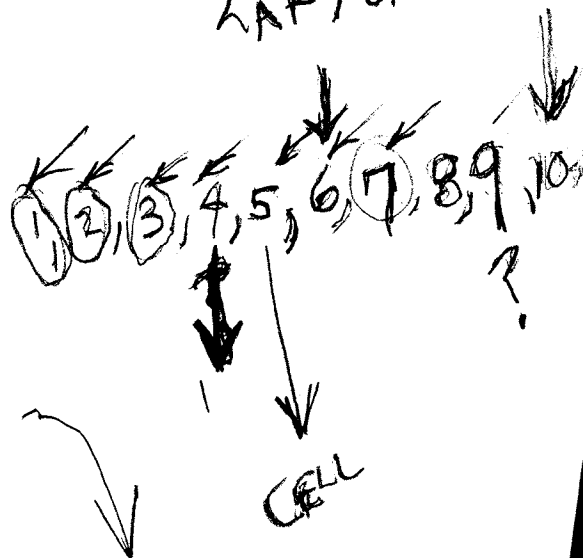
B REG 2 M

C COUNTIES

D MEETINGS

E INTEROP 700 MHz

F PRR ASSIG

G. ~~700 MHz~~H. ~~700~~ VHRI. 800
4.9 MHz

700MHz Regional Planning Committee

Region 2 (Alaska)

Meeting Minutes

Date: December 10, 2003
Time: 0930 Hrs
Location: NLECTC, 3000 C Street, Anchorage, AK

Attendees: Andrew Good – Anchorage Fire Department
Melissa Marshall – SofA - Dept of Military and Veterans Affairs
Bruce Richter – NLECTC - Northwest
Doug Robinson – Municipality of Anchorage
Dean Strid – State of Alaska
Electra Kreis – EFJohnson
Seth Burris – REVL Communications & Systems
Tim Michael – Providence Alaska Medical Center
Jim Harpring – SofA – Dept of Military and Veterans Affairs
Jerry Wilson – MOA – Dept of Communication
Scott Hulse – Motorola Communications

Meeting was called to order at 0930 hrs by Chair D.Strid.

Minute Review - Review of the minutes of the July 24th meeting. D.Robinson moved to approve the minutes. D.Strid seconded. Minutes passed.

Old Business:

By-Laws – D.Strid made the recommendation that the 700MHz appendixes include the 800MHz, 4.9GHz, Region 2 By-Laws and the SofA Interoperability. These documents need posted to the website as well.

D.Strid recommended that we adapt the verbiage in the NPSTC concerning the interoperability channels and how to assign channels for the 700MHz for Region 2's plans.

Quite a bit of discussion took place regarding the overall document that would include an executive summary and include them as individual appendixes.

S.Hulse made a motion that the formal document consists of an executive summary and the following appendixes:

- A – By-Laws
- B – Region 2 members
- C – County-like area
- D – Summary of past meetings
- E – Interoperability channels – 700MHz

- F – Pre-assignment rules and recommendations
- G – 700MHz frequency plan
- H – VHF frequency plan reference
- I – 800MHz frequency plan reference
- J – 4.9GHz frequency plan
- K – External agreements

ME
Doug - JRB

D.Robinson seconded the motion. Motion passed.

CAPRAD Training: D.Strid made a motion that we use the CAPRAD database. D.Robinson seconded. Motion passed.

4.9GHz: 4.9GHz Planning Committee will meet on January 20th @ 1:30PM @ NLECTC.

700MHz: Region 2 RPC will meet on January 20th @ 3:00PM @ NLECTC.

Technical Committee: A.Good, M.Marshall, Steve Gerhing –NLECTC, D.Strid, J.Wilson & S.Hulse will meet on Tuesday, January 13th @ 1:30PM @ NLECTC.

New Business:

On future notices, Info Only to Alaska Native Justice Center, Ms. Odie & cc: Julie Kitka, Legal and Binding to Metlakatla (return receipt)

Coordination Requirements: D.Strid made a motion that we have a review concurrence on the applications that are submitted. M.Marshall seconded. Motion passed.

Field Strength Prediction: Folks should review Appendix K in the NPSTC manual concerning this matter. Further discussion at the next meeting.

Checking Account: Notification of checking account status of Wells Fargo.

Meeting adjourned.



PUBLIC NOTICE

News media information 202 / 418-0500
Fax-On-Demand 202 / 418-2830
TTY 202 / 418-2555
Internet: <http://www.fcc.gov>
<ftp.fcc.gov>

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 03-3406
October 27, 2003

WIRELESS TELECOMMUNICATIONS BUREAU
REGION 2 (ALASKA) 700 MHz BAND
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES NEXT MEETING

The Region 2 (Alaska) 700 MHz Public Safety Regional Planning Committee announces that its next meeting will be held at 9:30 a.m. AKST on Wednesday, December 10, 2003, at the National Law Enforcement and Corrections Technology Center facility, 3000 C Street, Anchorage, Alaska.

The agenda for this meeting includes the following items:

- Continue developing a statewide (Alaska) plan to meet the needs of the 700 MHz spectrum users including public safety, public health, emergency management, and utility services.
- Review the regional plan as prepared by the work group, which is seeking recommendations and/or approval of their submittal.
- Discussion and possible action regarding whether the committee will coordinate frequency assignments in the new 4.9 GHz Public Safety band.

The Region 2 (Alaska) 700 MHz Public Safety Planning Committee meeting is open to the public. State and local governments and certain nongovernmental organizations that provide public safety services are eligible for licensing in the 700 MHz band. (*See* Section 90.523, FCC Rules for details.) All governmental eligibles, including Native American Tribal Governments, as well as nongovernmental eligibles should be represented at this meeting to ensure that each entity's future spectrum needs are considered in the planning process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend,

participate and represent your agency's needs.

(over)

All interested parties wishing to participate in the planning for the use of new Public Safety spectrum in the 700 MHz band, or the newly allocated 4.9 GHz band are encouraged to attend. For further information about the meeting, please contact:

Dean Strid, Chairman
Region 2, 700 MHz Regional Planning Committee
State of Alaska – Department of Administration IT Group
5900 East Tudor Road
Anchorage, Alaska 99507
PH: 907-269-5764
FX: 907-269-5562
Email: dean_strid@admin.state.ak.us

Jerry Wilson, Vice-Chairman
Municipality of Anchorage
3650 E. Tudor Road, Building C
Anchorage, Alaska 99507
PH: 907-343-8375
FX: 907-343-8201
Email: wilsonjl@ci.anchorage.ak.us

General information regarding public safety radio spectrum and the regional planning process is available on the Commission's internet site at: <http://wireless.fcc.gov/publicsafety/>.

-FCC-

9-9-03

Regional 700 MHz Planning Mtg

Electa Kreis - EF Johnson, Co - 800-201-9755 x 2
Seth Burris - REVL Communications - 907-563-8302
Melissa Marshall - SOA - OES 907-428-7075
DEAN STRID SOA ITG 907 269-5764
JERRY WILSON MOA Comm. 907-343-8375
Doug ROBINSON ML/P Shop Srv. 907-263-5559
Jim HARRING DMVA 907-428-7011
TIM MICHAEL Providence Hospital. 907 261-5000
Scott HULSE MOTOROLA 907-261-5182
Bruce Richter NLECTC-NW 907-569-6934

700MHz Regional Planning Committee

Region 2 (Alaska)

Meeting Minutes

Date: July 24, 2003
Time: 1430 Hrs
Location: Anchorage, AK

Attendees: Andrew Good – Anchorage Fire Department
Dick McCart – Frontier Systems Integrators
Melissa Marshall – North Slope Telecom
Bruce Richter – NLETC - Northwest
Doug Robinson – Municipality of Anchorage
Dean Strid – State of Alaska
Dwayne Sakumoto - Motorola

Meeting was called to order at 1445 hrs by Chair D.Robinson.

Minute Review - Review of the minutes of the May 22nd meeting. D.McCart moved to approve the minutes. B.Richter seconded. Minutes passed.

RPC Chair - D.Robinson discussed his Chair position with his new boss and it will be necessary for him to relieve himself of this responsibility. After some discussion, D.Robinson suggested that D.Strid move to the Chair position and J.Wilson be elected as Vice-Chair. At the point that D.Robinson's previous position with MOA is named, possibly at that time, that person be approached as to their involvement.

D.Robinson made the motion that Vice-Chair D.Strid be nominated as the Chair position. A.Good seconded. Motion passed.

D.Robinson contacted J.Wilson via landline/cell-line and explained to him the movements. J.Wilson agreed to fill the position if elected. D.Robinson made the motion that J.Wilson be nominated as the Vice-Chair. D.Strid seconded. Motion passed.

D.Robinson will notify the FCC of the changes.

CAP/RAD Training - September 16-18, Dave Funk, from NLECTC-Rocky Mountain will be providing training on CAP/RAD.

D.Robinson suggested that an email be sent out regarding the training, indicating the dates, times and a firm reply if they are able to attend. Reply should be no later than the middle of the second week of August. A reminder e-mail should be sent the Friday and/or possibly Monday, just prior to the meeting.

Development of sub-committees:

700MHz Coordination Planning Committee - D.Strid suggested that the State Interoperability be used for development of the 700MHz plan. D.Robinson made a motion that the 8 folks that attend the CAP/RAD training also be the 700MHz Coordination Planning Committee. D.McCart seconded. Motion passed.

4.9GHz Plan - D.Robinson requested that the email from CGISS Spectrum Strategy to himself dated July 01, 2003, be included as an attachment in the minutes. See Attachment A.

State of Alaska Interoperability Plan – This was tabled until the next meeting. D.Robinson requested that this plan be emailed to all participants.

By-Laws for Region 2 RPC - D.McCart suggested that the date for the annual meeting be May 25th and to change the wording from not a legal holiday or weekend, and change Tudor to East Tudor. Remove everything in the brackets under 2.9 and majority of the officers and a minimum 1 other voting member shall constitute a quorum. D.McCart made a motion that the By-Laws for Region 2 be accepted upon making the changes. D.Robinson seconded.

There was quite a bit of discussion about using the State of Alaska Interoperability Plan as the encompassing all-document and within that document, have appendixes for 700MHz, 4.9GHz and others that may come up. A. Good to email the electronic file of the SoA Interoperability Plan. D.Robinson will send an email of his idea concerning the layout/indexing of the plan.

Dick McCart requested a copy of the presentation by B.Branlund. A.Good to e-mail copies to all parties.

D.Robinson made the motion to adjourn at 1545 hrs. D.Strid seconded.

Attachment A

Good, Andrew F.

From: Robinson, Doug A.
Sent: Tuesday, July 01, 2003 11:44 AM
To: Good, Andrew F.; 'dean_strid@admin.state.ak.us'
Subject: FW: 4.9 GHz Service Rules Published In Federal Register

FYI....

-----Original Message-----

From: Rinehart Bette-C18923 [mailto:C18923@motorola.com]
Sent: Tuesday, July 01, 2003 11:14 AM
To: Robinson, Doug A.
Subject: 4.9 GHz Service Rules Published In Federal Register

Doug,

The 4.9 GHz Service Rules were published in the Federal Register yesterday, June 30 2003, making the effective date of the rules July 30, 2003. This means the following:

- PS entities can begin filing for jurisdictional licenses as of July 30. The FCC is going to have to issue guidelines to explain how to complete a license for a 4.9 GHz license -- similar to the Public Notice it released in 2001 explaining how to complete applications for the State geographic 700 MHz licenses.
- Paragraph 40 of the Report & Order states that the 700 MHz RPCs should convene an initial 4.9 GHz planning meeting within 6 months of the effective date of the rules which would be by **January 30, 2004**.
- Paragraph 40 of the Report & Order also states that the 4.9 GHz Regional Plan should be filed by one year from the effective date of the rules which would be by **July 30, 2004**.
- NPSTC is working to develop a 4.9 GHz Regional Planning outline for use by the RPCs in developing their 4.9 Regional Plans.

Bette Rinehart
Motorola
CGISS Spectrum Strategy

7/5/2003

Good, Andrew F.

From: Robinson, Doug A. (ML&P)
Sent: Thursday, June 12, 2003 12:10 PM
To: Good, Andrew F.; Wilson, Jerry L.; 'dean_strid@admin.state.ak.us'; 'bruce.richter@ctsc.net'; 'kenneth.horn@us.army.mil'; 'lpeterson@iss-md.com'; 'trygve.erickson@motorola.com'; 'dick.mccart@frontier-si.com'; 'mmarshall@nstial.com'; 'd.sakumoto@motorola.com'; 'scott.hulse@motorola.com'; 'bruce.branlund@motorola.com'
Subject: Region 2 (Alaska) 700MHz RPC Status/Next Meeting

To all,

An update on the Region 2 700Mhz RPC Process.....

1. We still intend on meeting again in July. Our elected secretary, Andrew Good, is out until June 19th. I will be getting together with him upon his return, set up the meeting/agenda...etc.

2. Issues of note (for our agenda)....

- CAP RAD (Computer Assisted Preplanning Resource And Database) Training: Dave Funk of NLECTC is in charge of CAP RAD training. The training is designed to assist in developing the 700Mhz plan. The training lasts approx. 2 and 1/2 days and can accommodate up to 8 people.
- NLECTC Northwest (Bruce Richter) is working to get Dave up here to Alaska in late August/September to conduct CAP RAD training. Nothing is "locked in" as of this time.
- Complete and submit the Regional Planning Committee Support Funding paperwork.
- Notify the FCC of the elected Region 2 Chairperson.
- Establish by-laws.
- Establish sub-committee(s)...as requires/needed.

Will be in touch with you all upon Andrew's return...Thx....

CHAIRPERSON (ELECTION)

NOTIFY FCC OR CHAIR

STATE INTEROPERABILITY PLAN

4.9 GHz PLAN R#0

TIM WOODALL

700MHz Regional Planning Committee Region 2 (Alaska) Meeting Minutes

Date: May 22nd, 2003
Time: 0800 Hrs
Location: Anchorage, AK

Attendees: Bruce Branlund - Motorola
Trygve Erickson - Motorola
Andrew Good – Anchorage Fire Department
Peter Hambuch - Motorola
Kenneth Horn – U.S.Army
Scott Hulse - Motorola
Dick McCart – Frontier Systems Integrators
Melissa Marshall – North Slope Telecom
Lee Peterson – Information Systems Support
Bruce Richter – NLETC - Northwest
Doug Robinson – Municipality of Anchorage
Dean Strid – State of Alaska
Dwayne Sakumoto - Motorola
Jerry Wilson – Municipality of Anchorage

(Please note – the interim Secretary was elected near the end of the meeting so these minutes are from memory only, versus active recording throughout the meeting.)

The meeting was brought to order by Doug Robinson, RPC convener.

D.Robinson distributed the agenda (see attachment A) and discussed State of Alaska Interoperability Plan. Once a committee and officers are elected, the creation of the Interoperability Plan will begin. Once completed, this document will need to be submitted to the FCC for approval.

D.Robinson discussed the RPC Planning Guidebook which at the time of the meeting, there was only one copy. To date, a total of three RPC Planning Guidebooks are in distribution and others are available through the Region 2 RPC Secretary. Additionally, a CD-rom exists that has this guidebook on it.

Each person present introduced themselves, gave a brief description of their employment, and job function.

P.Hambuch of Motorola – San Diego, gave a Power Point™ presentation on the 700MHz plan which included the background, purpose, and timelines. He also provided us with update on the Homeland Security and the High/Speed Data and Federal Funding Initiatives. Interestingly enough, there are large dollars available in grants for this type of

a project. The key is early submission of grant request and follow-through. The following are just a few that was recorded:

- ODP (Office of Domestic Preparedness) Equipment Acquisition
 - \$3.5M -> Alaska
 - Applications due by 06/03
- FEMA/COPS
 - \$500K-2M
 - One agency per state

D.Robinson discussed the 4.9GHz Regional Planning Alert. (see attachment **B**)

D.Robinson discussed the Harbor Wireless 700MHz Guard Band Licensee. (see attachment **C**)

D.Robinson asked for a volunteer to be the RPC temporary Secretary. A.Good volunteered. It was decided upon that vendors/suppliers do not have a voting right when it pertains to frequency allocations.

NLECTC Training (CAP RAD) – Funding is available in the amount of \$2500 for this 2-3 day training event. Each RPO needs to send at least one delegate.

Page 62 of the RPC Planning Guidebook illustrates the Pre-Planning Flow Chart (see attachment **D**) while Page 63 illustrates the Coordination Flow Chart (see attachment **E**).

At this point in the meeting, nominations were taken for the Secretary, Vice-Chairperson and Chairperson.

Secretary –

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Unanimous vote for Andrew Good

Vice-Chairp –

Jerry Wilson nominated Dean Strid, seconded by Andrew Good
Unanimous vote for Dean Strid

Chairperson –

Jerry Wilson nominated Doug Robinson, seconded by Dean Strid.
Prior to a vote, D.Robinson shared with the committee that he may not be able to perform this function due to his future position within the Municipality and that he would be willing to accept the position in the interim.
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**REGION 2 (Alaska)
Initial Meeting
700 MHz Regional Planning Committee**

AGENDA

- | | |
|---|---------------|
| Introductions/Overview | Doug Robinson |
| 700Mhz Regional Planning Guidebook | Doug Robinson |
| - State of Alaska Interoperability Plan | |
| 700Mhz Regional Planning Briefing | Peter Hambuch |
| - Status of FCC Rules | |
| - Status of work done by the Pub Safety NCC | |
| Updates on: | Peter Hambuch |
| - Department of Homeland Security | |
| - High Speed Data/ Federal Funding Initiatives | |
| 4.9 Ghz Regional Planning Alert | Doug Robinson |
| 700Mhz Guard Band Licensee-Harbor Wireless | Doug Robinson |
| - Information sheet | |
| Establish a Region 2 Planning Committee | Doug Robinson |
| - Appoint a temporary secretary | |
| - NLECTC training (CAP RAD) | |
| - 700Mhz Planning Flow Chart | |
| - 700Mhz Frequency Coordination Flow Chart | |
| - Elect Chairperson, Vice-Chair and Permanent Secretary | |
| - Establish next meeting date to develop By-Laws, sub-committees | |
| - Regional Chairperson notifies FCC (e-mail to Joy Alford at jalford@fcc.gov) | |
| Comments/Questions | |
| Adjourn | |

4.9 GHz

Attachment
B

§ 90.1211 Regional Plan.

(a) To facilitate the shared use of the 4.9 GHz band, each region may submit a plan on guidelines to be used for sharing the spectrum within the region. Any such plan must be submitted to the Commission within 12 months of the effective date of the rules.

JULY 30, 2003

(b) Such plans must incorporate the following common elements:

(1) Identification of the document as a plan for sharing the 4.9 GHz band with the region specified along with the names, business addresses, business telephone numbers and organizational affiliations of the chairperson(s) and all members of the planning committee.

(2) A summary of the major elements of the plan and an explanation of how all eligible entities within the region were given an opportunity to participate in the planning process and to have their positions heard and considered fairly.

(3) An explanation of how the plan was coordinated with adjacent regions.

(4) A description of the coordination procedures for both temporary fixed and mobile operations, including but not limited to, mechanisms for incident management protocols, interference avoidance and interoperability.

(c) Regional plans may be modified by submitting a written request, signed by the regional planning committee, to the Chief, Wireless Telecommunications Bureau. The request must contain the full text of the modification, and a certification that all eligible entities had a chance to participate in discussions concerning the modification and that any changes have been coordinated with adjacent regions.

a project. The key is early submission of grant request and follow-through. The following are just a few that was recorded:

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Unanimous vote for Doug Robinson

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Harbor Wireless 700 MHz Guard Band License Fact Sheet

License Description

License Holder: Harbor Wireless, LLC
Market: Alaska MEA (state of Alaska)
Block: 700 MHz Block B (see attached band plan for Upper 700 MHz Band)
Frequency: 762-764 MHz, 792-794 MHz
Bandwidth: 4 MHz
Call sign: WPRV425

Permissible Operations

By Congressional direction, the Commission reallocated thirty-six megahertz of spectrum for commercial use including fixed, mobile, and broadcasting services. Six of the thirty-six megahertz have been identified as Guard Bands to provide protection to public safety users. Guard band equipment must meet ACCP OOBE criteria and guard band users must comply with frequency coordination procedures.

License Period

In light of continued use of this spectrum by broadcasters until 12/31/2006 or later, licenses will be issued for a total of approximately 14 years. The expiration date will be extended eight years beyond the date which incumbent broadcasters are required to have relocated to other portions of the spectrum, that is, until 1/1/2015.

Television Incumbents

The 700 MHz spectrum is presently encumbered by approximately 100 existing television stations across the nation, and it may remain so, to some extent, until 12/31/2006 or later. No part of the country is totally unencumbered in this band, and in some metropolitan areas, very little of this band is presently available. New geographic area licensees operating on this spectrum must comply with the co-channel and adjacent channel protection provisions of Section 90.545 of the Commission's Rules. See 47 C.F.R. § 90.545.

Channeling Plan

Guard Band Managers may apportion spectrum based on both geographic area and frequency.

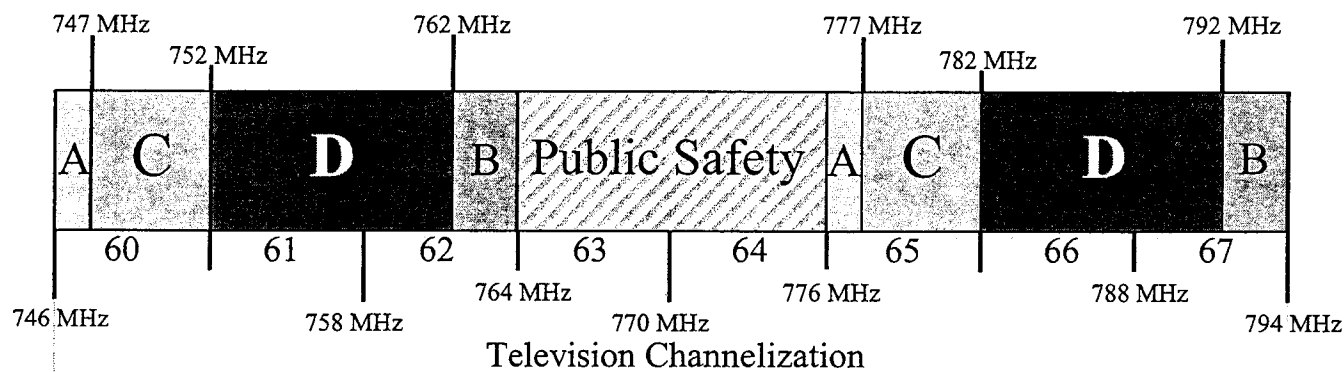
Other Licensing Rules

- Guard Band Managers must lease no more than 49.9% of its spectrum in a geographic service area to its affiliates.
- Partitioning and/or disaggregation is permitted.
- Guard Band Managers are required to file an annual report.

Harbor Wireless Contact Information:

John Mason
Harbor Wireless
2420 Sand Hill Road, Suite 205
Menlo Park CA 94025
650/324-6884
john@monsterpipe.com

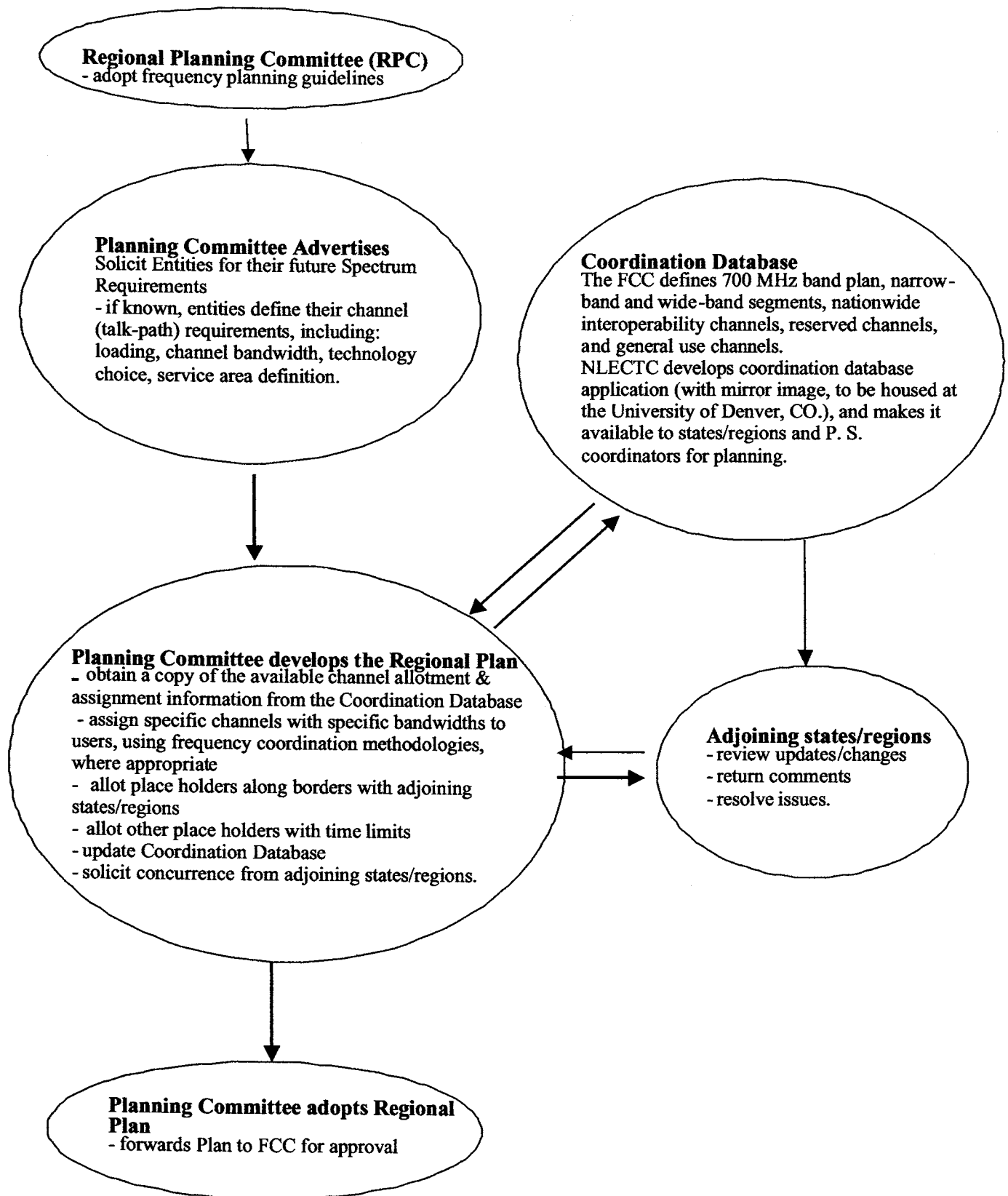
Upper 700 MHz Bandplan



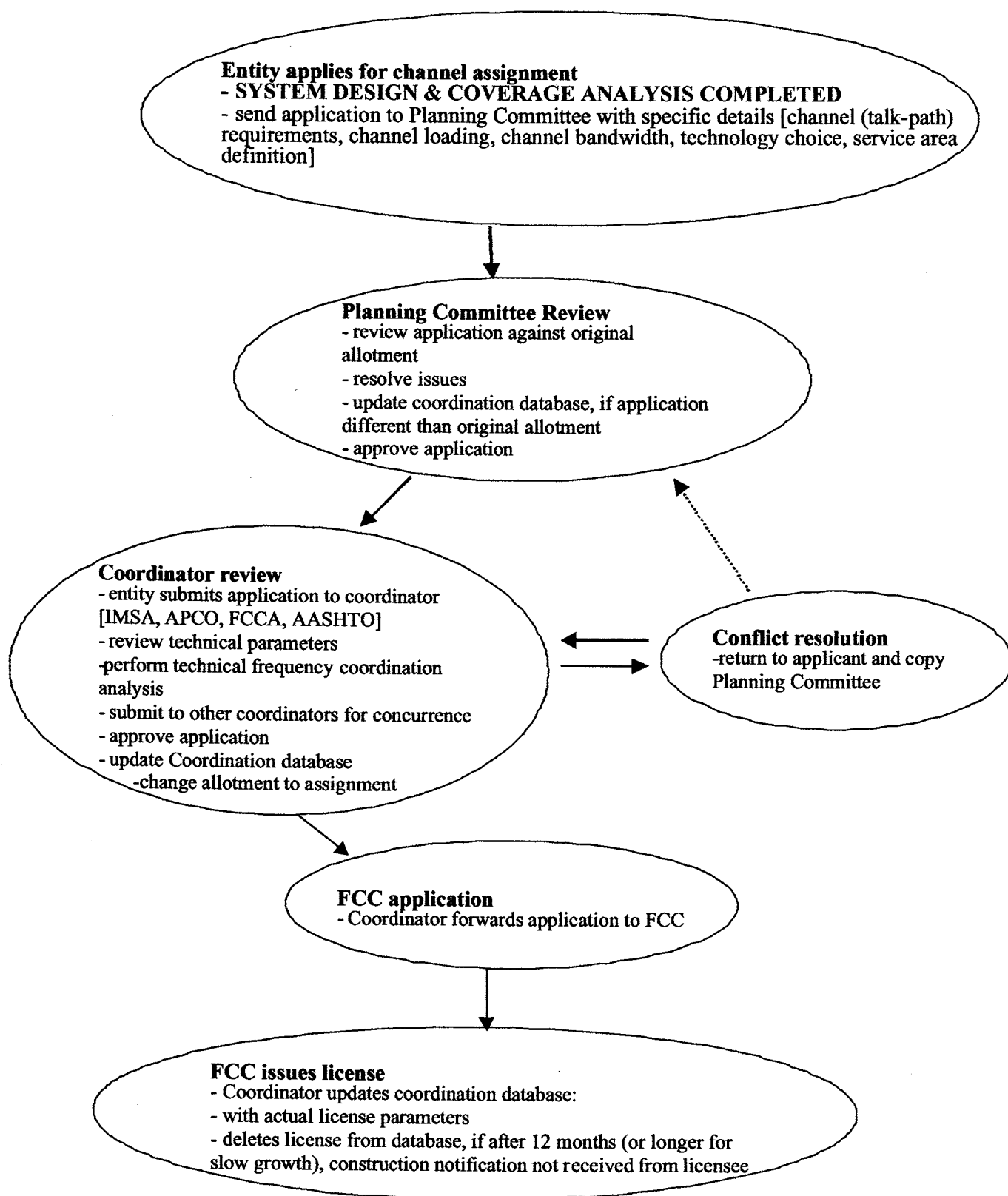
Block	Frequencies (MHz)	Bandwidth	Pairing	Geographic Area Type	No. of Licenses
A (Guard Band)	746-747, 776-777	2 MHz	2 x 1 MHz	Major Economic Areas	52
B (Guard Band)	762-764, 792-794	4 MHz	2 x 2 MHz	Major Economic Areas	52
C	747-752, 777-782	10 MHz	2 x 5 MHz	700 MHz EAG	6
D	752-762, 782-792	20 MHz	2 x 10 MHz	700 MHz EAG	6

APPENDIX G
PRE-PLANNING FLOW CHART

Attachment
D



APPENDIX G COORDINATION FLOW CHART



Online Public Notice

State of Alaska Online

[Home Page](#)[Go Back](#)

Submitted by
Andy Kline/ITG/Admin
on 02/03/2003 at 12:17
PM

Date Modified

Ak Admin Journal
[not printed]

Attachments

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Public (Web edit)

Wireless Telecommunications Bureau Action

Category: Agency Meetings
Publish Date: 02/03/2003

Department: Administration
Location: Anchorage
Region: Central

Body of Notice:

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 03-341
January 31, 2003

WIRELESS TELECOMMUNICATIONS BUREAU ACTION

REGION 2 (ALASKA) 700 MHz REGIONAL PLANNING COMMITTEE ANNOUNCES FIRST MEETING

The Region 2 (Alaska) 700 MHz Public Safety Regional Planning Committee Convener announces that the initial meeting of Region 2 700 MHz Public Safety Regional Planning Committee will be held on Thursday, May 22, 2003, at the State of Alaska, Information Technology Department Administration Building, 5900 East Tudor Road, Anchorage, Alaska.

The meeting of the Region 2 (Alaska) 700 MHz National Public Safety Planning Advisory Committee will convene at 8:30 a.m. The agenda for this meeting includes:

1. Review the status of the FCC Rules for the 700 MHz Band,
2. Review the work to date of the Public Safety National Coordination Committee,
3. Establish a Regional Planning Committee and procedural rules,
4. Elect a Chairperson,
5. Review plan elements, and
6. Form workgroups to develop the Regional Plan.

The Region 2 (Alaska) 700 MHz Public Safety Planning Committee meeting is open to the public. All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 2 would utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the **communications** field should delegate someone with this knowledge to attend, participate and represent your agency's needs.

All interested parties wishing to participate in the planning for the use of new Public Safety spectrum in the 700 MHz band are encouraged to attend. Please confirm the attendance of your representative by contacting the Region 2 Convener. For further information about the meeting, please contact:

Doug Robinson, Convener
Region 2, 700 MHz Regional Planning Committee
Information and **Communications** Services Division
Municipality of Anchorage, Traffic Department
Communications Division Manager
3650 East Tudor Road, Building C
Anchorage, Alaska 99507
PH: 907-343-7910
FX: 907-343-8201
Email: robinsonda@ci.anchorage.ak.us

Revision History:

02/03/2003 12:17:51 PM by Andy Kline/ITG/Admin/State/Alaska/US

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Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 03-341
January 31, 2003

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Information and Communications Services Division
Municipality of Anchorage, Traffic Department
Communications Division Manager
3650 East Tudor Road, Building C
Anchorage, Alaska 99507
PH: 907-343-7910
FX: 907-343-8201
Email: robinsonda@ci.anchorage.ak.us

-FCC-

Appendix E

Interoperability Plan



ALASKA LAND MOBILE RADIO
EXECUTIVE COUNCIL
(A Federal, State, and Municipal Partnership)



April 2003

INTEROPERABILITY PLAN

for the

STATE of ALASKA

(REGION 2)

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1. ALASKA LAND MOBILE RADIO EXECUTIVE COUNCIL

The State of Alaska, Alaska Municipal League (129 Cities and 14 Boroughs), DoD, and federal non-DoD agencies in Alaska have jointly formed the Alaska Land Mobile Radio Executive Council. This council, formed in 1995 (see appendix A), functions similar to a State Interoperability Executive Committee (SIEC).¹ The ALMR Executive Council, as a federal, state and local government cooperative functioning under the same premise as a SIEC will provide the administrative and technical oversight of operations of the interoperability spectrum resource used by the Alaska Land Mobile Radio system. The ALMR Executive Council also functions as a forum to address wireless interoperability issues and encourage development and modernization of systems, maximize economies of scale, and initiate consolidated procurement and maintenance activities within a state.

This diverse state's need for public safety communications interoperability is recognized at the highest levels of government² within the state, but also equally recognized by senior military and other federal agencies who operate within the state. Under the direction of the ALMR Executive Council, beginning in December 1997, the cooperative partners engaged in a Request for Information (RFI) to industry for a solution. The RFI was completed in January 1999. The results of that RFI led the cooperative partners to engage in a planning effort to implement a cost burden shared, standards based wide-area trunk land mobile radio system for day-to-day operations and interoperability among federal, state and local government public safety entities.

2. EXECUTIVE COUNCIL MEMBERSHIP

The ALMR Executive Council maintains a current list of members (and other active participants) with their affiliation and contact information. Each ALMR Council member has established membership criteria based upon the adopted ALMR Charter.

The members of the Executive Council are:

Mr. Williaml Tandeske
Commissioner Department of Public Safety
State of Alaska
ALMR Executive Council Co-Chair
Telephone: (907) 465-4322
Email: william_tandeske@dps.state.ak.us

Colonel Sue Ann A. Olsavicky
HQ Alaskan Command/J6
Department of Defense (DoD)
ALMR Executive Council Co-Chair
Telephone: (907) 552-3123
Email: j6.alcom@elmendorf.af.mil

¹ Fourth R&O in Docket 96-86, "In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communications Requirements Through the Year 2010"

² Governor's State Emergency Response Commission Report, dated July 23, 1997 (Governor State of Alaska)

Mr. Douglas A. Robinson
Communications Manager
Municipality of Anchorage
Alaska Municipal League
ALMR Executive Council Co-Chair
700 MHz State Convener
Telephone: (907) 343-7910
Email: robinsonda@ci.anchorage.ak.us

Mr. John W. Madden
Deputy Federal Security Director
Transportation Security Administration
Federal Agencies Non –DoD
ALMR Executive Council Co-Chair
Telephone: (907) 271-5987
Email: john.madden@tsa.dot.gov

The ALMR Charter (Appendix A) provides for the following:

- Voting members
- Non-voting participants
- Categories of eligibility
- Procedures for alternate/substitute members

3. DESCRIPTION OF THE STATE OF ALASKA AND THE ELIGIBLE ENTITIES

The ALMR Executive Council acts as a cooperative and consists of appointed executive officers that represent specified public safety agencies. The State of Alaska represents all state government agencies, including the Alaska National Guard. The Alaska Municipal League represents 129 Cities and 14 Boroughs within the State of Alaska. DoD represents the US Air Force, US Army, US Navy and Marine Corps. The federal non-DoD represents all other federal agencies operating within the State of Alaska, to include Alaska Tribal Governments and/or entities. Jointly these agencies through their representatives have formed the Alaska Land Mobile Radio Executive Council. Eligibility is defined in the adopted ALMR Charter.

4. NOTIFICATION PROCESS

The ALMR Executive Council has been engaged in planning an interoperable system since 1995. Many meetings have been held by the Executive Council throughout this period. The meetings have always been announced and interested parties have been provided access and voice to meeting agenda. Meeting minutes have been recorded and are available upon request. The ALMR Executive Council convener has always established the next meeting date at the end of the current meeting, and it is recorded in the minutes of the meeting. Most often, the ALMR Executive Council has provided 15 days prior notice for the convening of the ALMR Executive Council. The ALMR convener has used all reasonable resources to advertise the meeting. To encourage the greatest possible participation, the Council uses electronic distribution to advertise meetings and disseminate information such as: Internet, email, list servers, and web sites.

The ALMR Executive Council has and will continue to take all steps to encourage and accommodate all eligible entities to participate in the planning process. Provided teleconference bridges have been, and will continue to accommodate statewide participation of interested parties. All minutes, agenda, and presentations are posted to the ALMR website. ALMR continually reaches out to the Alaska Native Federation to encourage participation of Native

American tribes. In addition, the ALMR Executive Council ensures its proceedings are open to all members of the public safety community and Mutual Aid organizations, affording all these entities in the community the opportunity to participate in the planning process. Since Non-Government Organizations (NGOs) may be licensed in the public safety bands with sponsorship by a governmental agency, they are also encouraged to participate. Participation from all elements of public safety response is encouraged, including industry.

5. INTEROPERABILITY PLAN SUMMARY

Administration of Interoperability Channels: Interoperability channels allocated nationally will be used in accordance with the guiding recommendations, rules, regulations, and statutes that govern their use. The ALMR Executive Council will provide the administrative oversight and management of radio spectrum assets supporting public safety mutual aid, task force, and incident command response interoperability needs. The ALMR Executive Council will form a committee, to administer a statewide interoperability plan. This committee will be made up of an equal number of representatives each providing appropriate representation from within the state of Alaska, city, municipality borough, district, tribal area, state, and federal government as appropriate. The committee will be represented by all first responders disciplines, which includes but is not limited to emergency medical, fire, forestry, general government, law enforcement, transportation agencies from each level of government including Transportation Security, FAA, Department of Interior, FEMA, military, guard and reserve agencies. The Incident Command System (ICS) set forth herein (Appendix B) will be used as the guideline for further development of the states interoperability plan. Major elements of this plan will address:

License Holders: The State will hold and obtain all interoperability spectrum for use in the State of Alaska. The Region Two, 800 MHz plan coordinator will participate in all matters concerning the use of 800Mhz interoperability spectrum to insure consistency with this plan. The Region Two, 700Mhz plan will incorporate procedures that are consistent with this plan.

Approval authority for applications for interoperability spectrum: The ALMR Executive Council through the Interoperability Plan Committee will authorize application for and use of interoperability spectrum resources

Chain of Command for Incident Response and Reporting: Within the State of Alaska, Incident Command falls under three distinct entities:

1. For land based incidents within the boundaries of the state of Alaska the Incident Command falls under the direction of the Department of Public Safety, Alaska State Troopers;
2. For water based incidents occurring in major waterways, bays, harbor areas and oceans, the US Department of Transportation, US Coast Guard, 17th Coast Guard District, has Incident Command authority;
3. For all airspace over Alaska, the Department of Defense, Alaska NORAD Region, has Incident Command authority.

Oversight of Incident Response Protocols: The Alaska Land Mobile Radio Executive Council through the Commissioner of Public Safety, the Commissioner of Department of Military and Veterans Affairs, and the Assistant Commissioner for Homeland Security, Department of Defense, Department of Transportation, US Coast Guard, and State of Alaska will administer joint oversight of the Incident Command Response protocols.

Incident Command Communications Protocol: The incident commander has authority over all interoperability (I/O) assets.

Execution of Memoranda of Understanding and Sharing Agreements: The ALMR Executive Council will administer all *Memorandum of Understanding for Operating the Public Safety Interoperability Channels* and *Sharing Agreements*. All MOU's will be issued by the ALMR Executive Council and sharing agreements will be issued by the appropriate agency(s). Execution of these agreements will be on the appropriate agency(s) letterhead (see Appendix C and D).

Training: The federal, state, and local government partners engage in mutual aid/emergency response training a minimum of semi-annually. Bi-annually, the Department of Defense sponsors a Homeland Defense exercise where federal, state, local and industry public-safety and response agencies exercise Incident Command and response to defined and controlled scenarios. After action reports, and Joint Lessons Learned are published and improvements made. The ALMR Executive Council participates in the exercise planning and execution to validate the interoperability plan.

6. INTEROPERABILITY CHANNELS

The ALMR Executive Council is focused on establishing a P25 standards based statewide infrastructure that will facilitate secure interoperable communications for public safety among all federal, state, and local agencies. A cooperative approach has been taken by federal, state and local government to share spectrum resources and establish a trunked based infrastructure statewide that also facilitates backwards compatibility to legacy conventional and trunk systems and interface to maritime and air ground assets involved in emergency response.

Interoperability

Today more than ever, the requirement for communications interoperability between federal, state and local government public safety entities plays a significant role in the implementation of new technology solutions being sought and implemented by these agencies. Interoperability is required in both routine and emergency operating environments at all levels of government. The wireless device and the radio service that is the common denominator between these agencies is Land Mobile Radio (LMR).³ Virtually all federal, state, local and tribal public safety agencies use LMR systems as their primary means for exchanging information in both emergency situations and daily operations. The ALMR Executive Council is focused on establishing a cooperative Project 25 standards based trunked LMR infrastructure.

³ Land Mobile Radio. Refers to definitions 47CFR 90.7 for Land Mobile Radio System & Land Mobile Radio Service.

For the purpose of achieving interoperability pursuant to eligibility requirements contained in 47 CFR part 90, the federal, state and local government agencies participating in the ALMR cooperative have defined interoperability as; an integrated/shared common wide-area LMR backbone infrastructure, employing P25/TIA-102A⁴ standard compliant feature rich trunked digital narrowband technology. This interoperable system will employ both digital and analog technology and allow users access and interconnection⁵ to a variety of information sources. The system will retain the full-featured use of the radio system and trunk technology throughout the wide area system coverage during each category of interoperable operations among all participants. The system will also provide a conventional⁶ interface capability to aviation (below 5000 feet), maritime, and legacy land mobile systems as required. Some information passed over this system is encrypted and compressed for specific individual users. Voice will continue to be the primary operating mode and any agency in the trunk system may leave the system.

The ALMR cooperative recognizes various types of situations in which interoperable communications are required. These types of situations are defined by the Public Safety Wireless Network (PSWN) Program. PSWN recognizes public safety agencies engage in various types of interoperability situations, but primarily there are three categories of interoperability;⁷ day-to-day, mutual aid, and task force.

Day-to-day interoperability involves coordination during routine public safety operations. This type of interoperability would be defined as; when any agency is required to talk to another agency because one or more agencies have crossed over into another agencies jurisdiction and communication is required between agencies to coordinate and execute an operation. The combining of fire fighting capabilities from a federal and local municipal agency on a federal installation or the joining of federal, state and local law enforcement on the pursuit and apprehension of a suspect are examples of day-to-day interoperability.

Mutual aid and disaster response/coordination interoperability involves a requested joint and immediate response to major incidents that exceed the resources of the requesting agency. These type operations require tactical communications among various agencies responding to the incident. Airplane crashes, civil disturbances, natural disasters (earthquake, floods etc.), and man-made disasters (terrorist attacks, bombings, etc) are examples of mutual aid events requiring interoperability.

Task force interoperability involves federal, state, local, and tribal government agencies coming together for an extended period to participate in a specific and prolonged public safety concern. Consequence management, extended recovery operations from major disasters,

⁴ Refers to the Telecommunications Industry Association (TIA). The Project 25/TIA-102A standard covers all of the parts of a system for public safety land mobile radio communications

⁵ Interconnection. See 47CFR 90.7 Interconnection, refers primarily to telephone interconnect capability.

⁶ Conventional. See 47 CFR 90.7 Conventional Radio System, "A method of operation in which one or more radio frequency channels are assigned to mobile and base stations but are not employed as a trunk group."

⁷ Categories of Interoperability. PSWN; "Washington State SIEC Best Practices Guide", October 8, 2001 ¶ 1.1 Public Safety Communications Operating Environment.

security for major events or situations, homeland security issues or prolonged criminal activity are examples of task force interoperability.

Shared Systems/Shared Spectrum – Trunking VS. Conventional Interoperability

ALMR identified the need to achieve an economy of scale, reduce costs among agencies, and increase capability for interoperable communications among public safety entities. After determining the types of interoperability agencies engage in and the level of interoperability the user base defined as necessary, a system design was completed around these criteria, which resulted in a shared Project 25/TIA 102A **standard based trunk system** solution.

Trunk vs. Conventional Interoperability

Trunk technology provides the ability to search two or more channels and automatically assign a user an available channel. Trunk technology is more spectrum efficient, as opposed to a conventional system.⁸ Conventional systems, which depend on discrete spectrum, are used only when that net is engaged, and otherwise lay dormant until required again. However, trunk technology manages/controls the traffic required from multiple nets (referred to as “Talk Groups”) over the available spectrum resources such that no one-frequency pair is discretely allocated to one net. Spectrum is pooled among all active nets and managed to deliver maximum efficiency of available spectrum resources.

In essence, conventional interfaces significantly reduce the efficiency of the designed trunk system. When this occurs during an emergency, the resulting effect is that conventional interfaces reduce the designed capability of the trunk system, when traffic loading is usually at its maximum and repeater resources are most severely needed. Further, the user loses the full features of his day-to-day subscriber unit, which usually reduces communications capability normally available to the responder at a time when these features are truly needed.

When agencies are employing a standards based system such as Project 25/TIA-102A open-air interface, they can combine their resources to communicate and maintain the capability of their trunk system regardless of spectrum use. For example, agencies operating a P25/TIA-102A standard system in a VHF Public Safety band could interoperate in the trunk mode with a local municipality operating a like P25/TIA-102A standard system in a public safety allocation such as 700 or 800 MHz when their resources and coverage areas overlap. They can interoperate through their existing subscriber unit used day-to-day while retaining the full features of their subscriber unit. If the disaster combines these agencies outside of their common system coverage area, a conventional portable to portable solution is needed, and in most cases one or more agency must acquire or provide another subscriber radio asset to complete the communications.

⁸ Public Safety National Coordination Committee. In the Matter of Recommendations To the Federal Communications Commission For Technical and Operational Standards for use of the 764-776 MHz and 794-806 MHz Public Safety Band Pending Development of Final Rules. At Section III, ¶ 13-14. Dated February 25, 2000.

ALMR Trunked Based Interoperability Approach

The Executive Council encourages public safety first-responders within the State of Alaska to adopt a common standard trunk radio infrastructure solution. The Executive Council recognizes a need to provide an interface for legacy conventional systems during defined interoperability situations. This interoperability plan will focus on accommodation of both standards based and non-standards based radio equipment interoperability and establishing the administration and management of the interoperability spectrum to support the incident command structure. A radio user operating with a VHF trunking capable radio will be able to operate in both a trunking mode and a conventional mode. Since the operating band is VHF, this user will have the features and functionality of trunking within the coverage area of the trunked system on existing VHF systems. A user operating as described above will have the highest level of interoperability since most existing systems in Alaska are VHF. The ALMR Executive Council also recognizes that certain agencies or municipalities may elect to use 700 or 800 MHz trunk radio solutions. As long as this 700 or 800 MHz trunk infrastructure is Project 25/TIA 102-A standards based, interoperability can be achieved at a much higher capability than conventional alone and will be supported by the ALMR Executive Council.

The ALMR Executive Council also recognizes the need to provide backwards compatibility to legacy systems. Existing dispatch consoles have connectivity into existing radio repeater systems, both conventional and trunked. Connecting existing dispatch consoles into the P25/TIA-102A trunked system allows for cross patching between non- P25/TIA-102A trunked and conventional systems. Radio users on one system would then be able to communicate on the other system. A mobile conventional interface will be used for emergency responders, both within and outside Alaska, that bring communications resources that are not compatible with trunked systems in Alaska and our outside existing dispatch facilities. Air and maritime users needing to coordinate with land mobile users will require the same conventional interface on different frequencies. The situation will dictate the number of conventional radios required for interoperability.

The ALMR Executive Council has chosen Project 25/TIA 102-A trunked standards for all public safety communications thus facilitating the ability to interoperate between infrastructures employed in any of the public safety bands. The narrowband voice and data interoperability channels (sixty-four at 6.25 kHz bandwidth) defined on a nationwide basis in the 700 MHz band will be integrated into the VHF plan to provide a seamless and coordinated interoperability plan statewide. It is envisioned that in the larger densely populated areas of the state, such as Anchorage, 700 MHz or 800 MHz solutions will be employed to facilitate two-way radio and mobile data. The ALMR Executive Council through a committee action will provide oversight and administration of a convening authority set to establish use of and integration of trunked 700 and 800MHz interoperability spectrum use into a well coordinated plan to support secure interoperable communications for public safety under day-to-day, mutual aid, and task force interoperability situations. Since they are nationwide channels, each channel will have the same usage within the state and across borders. The current proposal, adopted by the NCC, is to use the ANSI/TIA 102 Standards (i.e., Project 25 digital protocols) as the Digital Interoperability

Standard for the conventional-only mode of operation on the narrowband voice and data interoperability channels.⁹

Calling Channels

When all agencies have completed their planning processes and have determined if VHF or 700/800 MHz is the solution to their voice and/or data communications requirements, calling channels as defined in Part 90 of the Code of Federal Regulations will be used (Appendix E). Where calling channels are integrated into the overall infrastructure, their coverage will match the coverage of the other interoperability channels in the system. In addition to the usual calling channel functions, the calling channels where employed may be used to notify users when a priority is declared on one or more of the tactical interoperability channels.

Tactical and Command Channels

The ALMR Executive Council through committee process has established the following command and tactical talk-groups and conventional channels to support the land based incident command structure. These talk-groups have been defined and validated through hands-on federal, state, local and industry participation in homeland defense and mutual aid exercises. On the trunked infrastructure, tactical talk groups are provided to facilitate vertical and horizontal communications among and between responders. Six command talk-groups have been allocated to facilitate command and control communications between incident command and all responding agencies command structures.

User Group →	Zone 1 Commanders	Zone 1 All Users	Zone 2
	On-scene Cmdr	ALL RESPONDERS	Conventional
Trunked T/G	Zone 1 Command	Zone 1 Responder	Zone 2 Conventional
TAC1 800061	X	X	F1
TAC2 800063	X	X	F2
TAC3 800065	X	X	F3
TAC4 800067	X	X	F4
TAC5 800069	X	X	F5
TAC 6 800071	X	X	F6
TAC 7 800073	X	X	F7
TAC 8 Conventional	X	X	F8
CMD1 800089	X		F9
CMD2 800091	X		F10
CMD3 800093	X		F11
CMD4 800095	X		F12
CMD5 800097	X		F13
CMD 6 announcement group call for CMND 1-5 800099	X		F14

All Interoperability talk-groups are for intra-agency communications. When one of the responding agencies is not on the trunk radio infrastructure, the conventional I/O channel will be

⁹ Voice and Data Interoperability standards were decided in the 4th R&O in Docket 96-86 and can be found in Part 90 of the Code of Federal Regulations (CFR). Voice I/O standard documents are listed in §90.548(a)(i); data I/O standard documents are listed in §90.548(a)(ii).

patched into the assigned trunked tactical talk-group. Otherwise, if this is not possible, conventional only operation on the assigned I/O channel will occur. Normally, users will ‘call’ a dispatch center and be assigned the next available command and tactical talk-group or a Zone 2 conventional statewide I/O channel if they are a conventional user only. Deployable narrowband operations (voice, data, trunking) shall be afforded access to the same pool of channels used for similar fixed infrastructure operations. In the event of conflict between multiple activities, prioritized use shall occur as defined by the incident or on-scene command.

Encryption

Use of encryption is prohibited on calling channels if used or assigned and encouraged on all other interoperability channels. A standardized encryption algorithm for use on the interoperability channels is TIA/EIA IS AAAA-A Project 25 DES¹⁰. In Alaska, the ALMR Executive Council has adopted the Advanced Encryption Standard (AES) as the encryption algorithm used under federal, state, and local responses under state’s jurisdiction. In Alaska, it has been determined that encryption of responder communications is highly advised for most homeland defense missions and roles.

Deployable Systems

In support of widespread VHF use by responders in Alaska, both federal and state agencies are employing VHF deployable trunk and conventional capabilities. These transportable systems consisting of a base station and repeater equipment, trunked and conventional, will be staged at central locations for response to emergencies. Conventional systems will use frequencies adopted for nationwide interoperability (Appendix E). These conventional VHF frequencies are programmed into the user radios to provide interoperability when beyond the coverage area of the trunking system, both inside and outside of Alaska. These same transportable systems will also maintain a cache of subscriber equipment to supplement deployed agencies that do not carry P25/TIA-102A VHF trunked radio capabilities. Further, agencies operating 700 or 800 MHz infrastructure are highly encouraged to maintain a cache of VHF P25/TIA-102A trunk radio subscriber equipment to facilitate mutual aid and response outside of their home infrastructure coverage. Alaska first responders who expect to engage operations outside of Alaska, such as the fire service should then ensure that they have a communications capability compatible with systems in other areas of the country.

Trunking on the Interoperability Channels

Trunking on the nationwide defined interoperability channels below 512 MHz will not be done in the State of Alaska. If trunking on 700 MHz interoperability channels is selected by those operating 700 MHz infrastructure, operation will be on a secondary basis and be limited to operation on eight specific 12.5 kHz channel sets, divided into two subsets of four 12.5 kHz

¹⁰ Prohibition of encryption on the calling channels and the encryption protocol to be used on the other I/O channels was determined in the 4th R&O. Information on encryption may be found in §90.553 of the CFR.

channels. One subset is defined by 7TAC01 through 7TAC07 and the other by 7TAC15 through 7TAC21.¹¹

For 700 MHz operations, any licensee implementing base station operation in a trunking mode on Interoperability Channels will provide and maintain on a continuous (24 hr x 7 day) basis as its primary dispatch facility the capability to easily remove one or more of these interoperability channels, up to the maximum number of such trunking channels implemented, from trunking operation when a conventional access priority that is equal to or higher than their current priority is implemented.¹²

For 700 MHz operations, nation-wide interoperability channels if used as trunking channels, will not become such an integral part of the trunked system operation that it becomes politically and technically impossible to extract them from the trunked system in the event of an emergency event having higher priority. For this reason, the Executive Council will follow the national guidelines¹³ and limit the number of Interoperability channels that may be integrated into any single trunked 700Mhz system to the following amounts:

For 700Mhz systems having 10 or fewer "general use" voice paths allocated, one (1) trunked Interoperability Channel set is permitted. For systems having more than 10 "general use" voice paths allocated, two (2) trunked Interoperability Channel sets are permitted.

Standard Operating Procedures for I/O Situations above Level 4

The safety and security of life and property determines appropriate interoperable priorities of access and/or reverting from secondary trunked to conventional operation. For those systems employing I/O channels in the trunked mode, the ALMR has set up interoperability talk groups and priority levels for those talk groups so that it is easy for dispatch to determine whether the trunked I/O conversation in progress has priority over the requested conventional I/O use. The ALMR Executive Council has determined that a wide-area I/O conversation initially has priority over a local I/O conversation and has documented this in the Incident Command System Protocol. However, this priority is not permanent, and can be changed by the Incident Command on demand.

In the event trunked access conflicts with conventional access for the same priority, conventional access shall take precedence. Access priority for "mission critical"¹⁴ communications adopted by the ALMR Executive Council is as follows:¹⁵

¹¹ Trunking recommendations adopted in the 4th R&O. A list of the channels that may be used for secondary trunking may be found in 90.531(b)(1)(iii).

¹² In the 4th R&O, the FCC stated it was 'appropriate to require such monitoring' but delegated to the States (or RPCs) the task of determining how monitoring would be accomplished.

¹³ In the 4th R&O, the Commission declined to adopt the NCC's recommended channel designations into the rules. The Interoperability Subcommittee (IOSC) recommended the categories listed above.

¹⁴ Mission critical use shall not include nor imply administrative or non-mission critical applications.

¹⁵ These access priorities are taken from the §4.1.21 of the Final Report of the Public Safety Wireless Advisory Committee dated September 11, 1996.

1. Disaster and extreme emergency operations for mutual aid and interagency communications;
2. Emergency or urgent operation involving imminent danger to life or property;
3. Special event control, generally of a preplanned nature (including Task Force operations);
4. Single agency secondary communications.¹⁶ (*Priority 4 is the default priority when no higher priority has been declared.*)

Standardized Nomenclature

The ALMR Executive Council recommends and strongly encourages that standardized nomenclature are employed for all public safety infrastructure, subscriber, and console equipment. Further the ALMR Executive Council strongly recommends public safety subscriber equipment use an alphanumeric display and only be permitted to show the recommended label for Command Incident trunk talk groups and conventional channels.

Data Only Use of the I/O Channels

For 700 MHz, the ALMR Executive Council strongly recommends that narrowband data-only interoperability operation on the Interoperability channels on a secondary basis shall be limited to two specific 12.5 kHz channel sets. One set is defined by DTAC17 and the other by 7DTAC47.¹⁷

Wideband Data Standards

For 700 MHz, the ALMR Executive Council has not determined the wideband data requirements and is awaiting development of a standard by the Telecommunications Industry Association.

State Interoperability Executive Committees¹⁸

The Alaska Land Mobile Radio Executive Council acts as the State's Interoperability Executive Committee. The ALMR Executive Council is prepared to administer and manage a statewide interoperability plan for all public safety spectrum. The council will foster and ensure interoperability among federal, state, and local public safety agencies engaged in day-to-day, mutual aid, and task force interoperability, as well as provide for standardized incident command communications protocols during intra-agency responses to natural and man-made disasters and homeland defense task force operations with in the state. These protocols include, but are not

¹⁶ This fourth priority would allow shedding traffic long in duration or overloading the non-interoperable system; but is not "two or more."

¹⁷ See 90.548(a)(ii) for data interoperability standard documents.

¹⁸ In the 4th R&O, the FCC determined that administration of the I/O channels should be done at the state level. While it supported the concept of SIECs, the Commission did not mandate that they be formed if a state already had a similar structure in place. See 90.525(a)

limited to, interoperability operations on the VHF, UHF 700 and 800 MHz interoperability channels. The committees formed to develop these plans include an equal number of representatives each providing representation from statewide, local governments, and appropriate federal agencies. These designated committees will represent all disciplines, in which case emergency medical, fire, forestry, general government, law enforcement, and transportation agencies from each level of government. Alternatively, committees may represent a single discipline in which case it is only necessary to have membership from the different levels of government previously described. The state will use the ICS as a guideline in developing the statewide interoperability plans. Under the direction of the Executive Council, the State of Alaska will hold licenses on all interoperability channels for all infrastructure and subscriber units within their state. The ALMR Executive Council will have oversight of the administration and technical parameters of the infrastructure for the interoperability channels within the state of Alaska.

Minimum Channel Quantity

For VHF operation, the minimum channel quantity for Calling and tactical channel sets requires 5 I/O channel slots in each subscriber unit. Note: The calling channel is considered an I/O channel (see Appendix E).

For 700 MHz operation, the minimum channel quantity for Calling and tactical channel sets requires eight I/O channel slots in each subscriber unit. Including direct (simplex) mode on these channel sets, up to 16 slots in each radio will be programmed for I/O purposes. Subscriber units, which routinely roam through more than one jurisdiction up to nationwide travel will require more than the minimum channel quantity.

Direct (Simplex) Mode

In direct (simplex) mode, transmitting and receiving on the output (transmit) side of the repeater pair for subscriber unit-to-subscriber unit communications at the scene does not congest the repeater station with unnecessary traffic. However, should someone need the repeater to communicate with the party who is in “direct” mode, the party would hear the repeated message, switch back to the repeater channel, and join the communications. Therefore, operating in direct (simplex) mode shall only be permitted on the repeater output side of the voice I/O channel sets.

Common Channel Access Parameters

Common channel access parameters will provide uniform I/O communications regardless of jurisdiction, system, manufacturer, etc. Thus, the Calling and TAC channels (all of them) will include a common National Access Code (NAC).

7. ADDITIONAL SPECTRUM REQUIREMENTS

The ALMR Executive Council will have the ability to assign additional spectrum within the state for interoperability. The spectrum will only be available for use within the state. The Executive Council through its interoperability committee, if the need for additional interoperability

spectrum is determined, will justify the assignment of all additional spectrum and include operational guidelines as well as user criteria with eligibility requirements.

8. ALLOCATION OF “GENERAL USE” SPECTRUM

The Interoperability Committee under the direction of the ALMR Executive Council will ensure coordination is effected with Canada under the pre-planning stages and throughout the planning process to ensure the correct coordination procedures are taken.

9. PRIORITY MATRIX

The ALMR Executive Council will through committee process establish a matrix to be used to evaluate competing applications within the State. The committee will award point values to each category. The applications receiving the highest number of points will receive the channels, after review and consent of the Executive Council. The committee will use seven scoring categories defined as follows:

- **Service (Maximum score 250 points)**
Police, fire, local government, combined systems, multi-jurisdictional systems, etc.
- **Intersystem & Intra-system interoperability (Maximum score 100 points)**
The proposed system P25/TIA-102A compliant. How well the proposed system will be able to communicate with other levels of government and services during an emergency on “regular” channels, not the I/O channels. Interoperability will exist among many agencies to successfully accomplish the highest level of service delivery to the public during a major incident, accident, natural disaster, or terrorist attack.
- **Loading (Maximum score 150 points)**
The system is part of a cooperative, multi-organization system. The application is an expansion of the existing system. Demonstrates maximum efficiency or provides a demonstration of the system’s mobile usage pattern and loading information, based on population, number of mobiles and portables, and talk groups.
- **Spectrum Efficient Technology (Maximum score 150 points)**
Trunked systems approach is being taken as it is considered the most efficient as well as any technological systems feature, which is designed to enhance the efficiency of the system and provide for the efficient use of the spectrum.
- **Systems Implementation Factors (Maximum score 100 points)**
Applicant provides a funding, construction, and implementation schedule.
- **Geographic Efficient (Maximum Score 100 points)**
The applicant demonstrates an appropriate ratio of subscriber units to area covered and channel reuse potential. Note: “The higher the ratio (mobiles divided by square miles of coverage) the more efficient the use of the frequencies. Those systems which cover large geographic areas will

have a greater potential for channel reuse and will therefore receive a high score in this subcategory.”

- Givebacks (Maximum score 150 points)

The applicant demonstrates that there are a considerable number of channels given back and demonstrates the extent of availability and usability of those channels to others.

Total maximum score is 1000.

10. APPLICATION REQUEST DOCUMENTATION

The Interoperability Committee under the direction of the Executive Council is required to document the process and procedures followed to determine the applicant’s needs and how those requests were evaluated. The document will explain how it processed applications, evaluated the requests for frequencies, the percentage of requests it was able to meet and turned down, how mutually exclusive applications were handled, when, how, and where public notification and review of applications took place. This report will be presented to the Executive Council bi-annually and upon approval by the Executive Council made available to the public if a determination has been made that the information is releasable.

11. COORDINATION WITH CANADA

The Interoperability Committee, will provide documented proof of coordination with Canada, when such coordination is required. This information will be provided with the bi-annual report documenting how users needs were considered and met. This report will be presented to the Executive Council bi-annually and upon approval by the Executive Council made available to the public if a determination has been made that the information is releasable.

12. SPECTRUM UTILIZATION¹⁹

VHF: The frequency-channeling plan conforms to equipment and software requirements, is simple in design, cost effective, and has growth potential. Spectrum and location requirements were determined in the System Design Analysis (SDA). The channel plan underwent four revisions. Each revision underwent a four step process: First, a comparison of available frequencies in Alaska’s three largest cities, Anchorage, Fairbanks, and Juneau, was made; second, combiners consisting anywhere from three to eight repeaters were designed to support all three locations utilizing the same frequencies; third, re-evaluate initial and growth requirements at each site; and fourth, reuse the same combiners along the state highways and in the smaller communities to connect the cities.

Ninety channels, 180 frequencies, were identified. Only 72 channels are required for implementation of the four phases (354 repeaters at 87 sites). An additional 18 channels are identified for growth. The revision process will take place every year until implementation of the four phases and continue, as required, for growth. The frequency-channeling plan is

¹⁹ Alaska Land Mobile Radio, Radio Frequency Applications and Waiver Requests, June 12, 2002

designed to take advantage of future software changes and usage requirements to expand or scale down the number of repeaters at each location to always ensure maximum reuse of the radio spectrum.

700MHz: No planned use for 700Mhz has been established as of the date of this plan. When use is contemplated, the Interoperability Committee will ensure an efficient and complete planning process is undertaken to determine and administer such spectrum.

13. FUTURE PLANNING

Future Planning & Minutes

The ALMR Executive Council will determine the frequency of meetings and include the schedule in the Charter. The Executive Council may also define how and where future applications and/or license modifications will be filed. A list of publications and/or websites that will be used to announce the meetings will be defined and advertised. The Charter includes a description of the process by which the plan can be amended. The ALMR Executive Council records the minutes of all meetings and shall keep them available for review upon request by the FCC for three years.

Database Maintenance

For 700 MHz, the ALMR Executive Council will use the NLECTC pre-coordination database, specifically designed for use in the 746-776/794-806 MHz public safety band. This database will contain frequency availability and pre-allotment.

Dispute Resolution

The ALMR Executive Council has adopted the Dispute Resolution Process described in Appendix D of the 700 MHz Regional Planning Guide book,²⁰ as the initial methodology in all dispute resolution. The FCC remains the final authority in any and all dispute resolution.

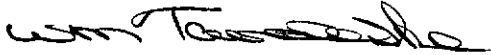
14. CERTIFICATION

The ALMR Executive Council will include in the summary of the minutes of each meeting a listing of the ways in which the meetings were announced to all members and all possible interested parties. Minutes will also include lists of all members, participants, and observers attending the meeting. The minutes will include a simple certification statement signed by the lead chairperson.

²⁰ National Public Safety Telecommunications Council (NPSTC), 700 MHz Regional Planning Guidebook, produced by the NPSTC for the Federal Communications Commission, version 2.01, July, 2002

ALMR EXECUTIVE COUNCIL APPROVAL

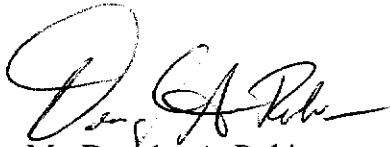
The ALMR Executive Council by their signature below certifies that they, representing their defined agencies have reviewed and approve the State of Alaska interoperability plan. The Executive Council will appoint an Interoperability Committee as herein described (paragraph 5) to further develop and coordinate this plan as required to meet the Public-Safety interoperability needs for the State of Alaska.



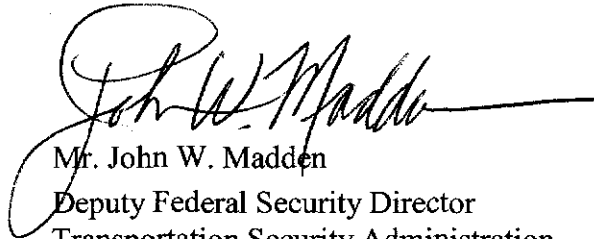
Mr. William Tandeske
Commissioner Department of Public Safety
State of Alaska
ALMR Executive Council CO-Chair



Colonel Sue Ann A. Olsavicky
HQ Alaskan Command/J6
Department of Defense (DoD)
ALMR Executive Council Co-Chair



Mr. Douglas A. Robinson
Communications Manager
Municipality of Anchorage
Alaska Municipal League
ALMR Executive Council Co-Chair



Mr. John W. Madden
Deputy Federal Security Director
Transportation Security Administration
Federal Agencies Non-DoD
ALMR Executive Council Co-Chair



ALASKA LAND MOBILE RADIO EXECUTIVE COUNCIL
(A Federal, State and Municipal Partnership)



**CHARTER FOR THE ALASKA-WIDE LAND MOBILE RADIO
EXECUTIVE COUNCIL**

10 April 2003

Supersedes all earlier editions

ARTICLE I – INTRODUCTION

The Alaska Land Mobile Radio (LMR) Executive Council, hereafter referred to as the “LMR Executive Council,” was formed under original charter on 19 September 1995. The original charter centered the Executive Council’s goals and objectives for migration to narrowband operations and addressed only federal agencies in this process. The charter was revised September 1997, to include state and local agencies, and broadened the focus to address interoperability across all government public safety and first responder disciplines. The September 1997 charter was written to address the September 1997 Memorandum of Understanding (MOU) between federal, state and local agencies to conduct a “Request for Information” (RFI) to industry for a technical solution for an interoperable statewide system supporting federal, state and local public safety first-responder missions and roles.

This charter is revised to address the MOU dated 4 April 2001, between federal, state and local government agencies to implement a cost shared, single statewide Association of Public Safety Communications Officials (APCO) Project 25/Telecommunications Industry Association (TIA) 102-A, standards based trunked and conventional based radio infrastructure. This charter represents a consortium approach to governance of the implementation, operation, maintenance and management of the shared trunked and conventional land mobile radio infrastructure.

The LMR Executive Council operates under the authority of appointment and executes this Charter pursuant to specific memorandums of agreement signed and authorized between and among the principal parties under the consortium governance approach. Under this charter, the Executive Council will be dedicated to assessing, assembling and consolidating requirements, drafting and submitting consolidated plans, agreements, budget actions, program management, cooperative purchasing agreements and procurement actions to provide a common interoperable and cost effective Project 25/TIA 102-A standards based statewide shared LMR infrastructure that is compliant with federal, state and local regulatory guidance and is responsive to mission needs of all participating agencies in the State of Alaska.

ARTICLE II – PURPOSE AND DESCRIPTION

A. This charter provides the foundation policies and responsibilities for the creation of the LMR Executive Council. Further, this charter defines the responsibilities related to membership of any federal, state, municipal agency or tribal government entity in the LMR Executive Council.

B. The LMR Executive Council will define, develop and coordinate a migration/implementation, operations, maintenance and management plan to provide a cost shared LMR Project 25/TIA102-A standards based communications trunked and conventional infrastructure encompassing participating federal, state and municipal users within the State of Alaska. The LMR migration/implementation, operations, maintenance and management plan shall facilitate approved users within the State of Alaska to access and utilize this infrastructure, for the primary purpose of improving communications interoperability between participating public safety first responder agencies involved in mutual aid and emergency/medical response roles, and secondarily to improve their mission support capability for day-to-day operations through a cost burden shared infrastructure.

C. The LMR Executive Council will act as the State’s Interoperability Executive Committee.¹ The LMR Executive Council will provide the administrative oversight and management of radio spectrum assets supporting public safety mutual aid, task force, and incident command response interoperability needs. The LMR Executive Council will administer and manage a statewide interoperability plan for all public safety spectrum. The LMR Executive Council will foster and ensure interoperability among federal, state, and local public safety agencies engaged in day-to-day, mutual aid, and task force interoperability, as well as provide for standardized incident command communications protocols during intra-agency responses to natural and man-made disasters and homeland defense task force operations within the state. These protocols include, but are not limited to, interoperability operations on the VHF, UHF 700 and 800 MHz interoperability channels.

ARTICLE III – MEMBERSHIP AND ORGANIZATION

A. The LMR Executive Council is open to all Federal, State and Municipal governmental agencies. Four equal co-chairs shall administer the Council. The Co-Chairs consist of a Federal Department of Defense (DoD), Federal Non-DoD, State of Alaska, and Alaska Municipal League representative. Representatives shall be appointed by their respective agencies, and must be at an executive level empowered to provide binding voice and vote for that agency.

B. Membership in the LMR Executive Council is divided into five categories:

1. The Executive Council. The Executive Council consists of four voting members: Federal – DoD, Federal Non-DOD, State of Alaska, and Alaska Municipal League.

¹ Federal members of the ALMR Executive Council serve as liaisons to the State’s Interoperability Executive Committee (SIEC) and are not members of the SIEC and do not have any management authority or responsibility for the activities of the SIEC. Federal liaisons may advise the SIEC on Federal policies and represent the Federal government in discussions about matters of mutual interest. However, statements made or opinions expressed by liaisons in those discussions do not bind the Federal government or its agencies to any action

The Executive Council shall have voice and vote and will administer meetings and other proceedings as pertains to the goals of this charter.

2. Associate Members: Associate members consist of any number of personnel appointed by or otherwise requested to participate in LMR Executive Council proceedings and actions. Associate members have voice at LMR Executive Council but do not have vote.

3. Project Team: The Project Team consists of members appointed by the Executive Council to carry out key roles in the system development and implementation process, to include defining the operations, maintenance and management life-cycle processes. The Executive Council is the final approval authority over these processes. The roles and responsibilities of project team members will be defined under the Program Management Plan. The following the positions will make up the Project Team:

a. Program Managers: Single Lead Program Manager and Deputy Program Manager(s). The Lead Program Manager is appointed by the State of Alaska Department of Administration and the Deputy is appointed by the Department of Defense Alaskan Command. Deputy Program Managers may be appointed to represent each voting agency.

b. User Representatives: One lead representative from each of the following: the State of Alaska, Alaska Municipal League, Federal Non-DoD, Federal-DoD, and one representative from each participating non-voting agency/entity may also be appointed.

c. System Managers: One Project Lead System Manager and Deputy System Manager(s) The lead System Manager is appointed by the State of Alaska Department of Administration, the Deputy appointed by the Department of Defense Alaskan Command. Deputy System Managers may be appointed to represent each voting agency.

d. Budget Specialists: One Project Lead Budget Specialist and Deputy Budget Specialist(s). The Project Lead Budget Specialist is appointed by the State of Alaska Department of Administration and the Deputy is appointed by The Department of Defense Alaskan Command. Deputy Budget Specialists may be appointed to represent each voting agency.

e. Spectrum Manager: One Project Lead Spectrum Manager and Deputy Spectrum Manager(s). The lead Spectrum Manager is appointed by the State of Alaska, Department of Administration and the Deputy Spectrum Manager is appointed by the Department of Defense Alaskan Command. Deputy Spectrum Managers may be appointed to represent each voting agency.

f. Site Managers: One Site Manager from each of the following: the State of Alaska, Alaska Municipal League, Federal – Non-DoD, Federal – DoD, and one representative from each non-voting participating agency/entity may also be appointed.

g. Security Specialist: One representative from each of the following: the State of Alaska, Alaska Municipal League, Federal Non-DoD, Federal-DoD, and one representative from each participating non-voting agency/entity may also be appointed.

h. Procurement Specialist: One representative from each of the following: the State of Alaska, Alaska Municipal League, Federal Non-DoD, and Federal-DoD.

i. Legal Council: One legal Council representative from State of Alaska, Alaska Municipal League, Federal Non-DoD, and Federal DoD, and one representative from each non-voting participating agency/entity may also be appointed.

j. Outreach/Public Affairs Specialist: One Public Affairs specialist from each of the following: the State of Alaska, Alaska Municipal League, Federal Non-DoD and Federal DoD.

4. Working Groups: Working groups will consist of members appointed by the Executive Council voting members to carry out specific tasks and actions as required by the Lead Project Manager and defined by motion and enacted by an approved vote of the LMR Executive Council.

5. Committees: Committees will consist of members appointed by the Executive Council voting members to carry out specific tasks and actions as required. A permanent standing committee will be formed to oversee the development and management of an Interoperability plan

a. The Interoperability Committee formed to develop this plan will be made up of an equal number of representatives each providing appropriate representation from within the state of Alaska, city, municipality borough, district, tribal area, state, and federal government as appropriate.

b. The committee will be represented by all first responders disciplines, which includes but is not limited to emergency medical, fire, forestry, general government, law enforcement, transportation agencies from each level of government including Transportation Security, FAA, Department of Interior, FEMA, military, guard and reserve agencies.

c. These designated committees will represent all disciplines, in which case emergency medical, fire, forestry, general government, law enforcement, and transportation agencies from each level of government. Alternatively, committees may represent a single discipline in which case it is only necessary to have membership from the different levels of government previously described.

d. The committee will use the Incident Command System (ICS) as a guideline in developing the statewide interoperability plans.

6. Under the direction of the Executive Council, the State of Alaska will be assigned and hold licenses on all interoperability channels for all infrastructure and subscriber units within the state subject to this charter.

C. Membership and participation in Executive Council proceedings does not bind or obligate an agency to commit to providing any communications service, or participating in the implementation of the agreed migration/implementation, operations, maintenance and management plan. Executive Council actions that are deemed to require binding action shall be implemented through Memorandums of Understanding, Agreement or other such binding or good faith instruments. Members are bound or obligated through Memorandums of Understanding, Agreements, Cooperative Agreements, and other such legally recognized actions for which they are a party. Members shall be obligated and bound to agreements which are a result of working groups, committees or other sources which have been coordinated through all

appropriate technical, legal, legislative, financial and executive levels as required, and signed by those in appropriate authority.

D. Participating Federal, State and Alaska Municipal League agencies and member organizations are listed in Annex A.

E. Appointed working groups, members and a brief description of their tasking is contained in Annex B.

F. Appointed committee members, and a brief description of their tasking is contained in Annex C.

F. Approved (on-going or completed) plans, actions and projects are listed in Annex D.

ARTICLE IV – MEMORANDUM OF AGREEMENT & COOPERATIVE AGREEMENTS

A. A Memorandum of Agreement or Memorandum of Understanding (MOA or MOU) or Cooperative Agreement shall be executed between each applicable member agency and shall specify the terms and conditions for participation, resource sharing and utilization for the various stages of implementation. The purpose of an MOA, MOU or Cooperative Agreement is to define specific goals, agreements and actions required to execute actions and responsibilities associated with the migration/implementation, operations, maintenance and management of the common infrastructure or system use.

B. No agency/member shall have authority to commit another agency's/members funds or resources in any negotiations, agreements or contracts with or without such authority being extended and executed to said agency/member through a legally executed document specifically addressing such actions.

C. A copy of each fully executed MOA, MOU, or Cooperative Agreement with pertinent documentation developed under this Article shall be affixed to and become part of this Charter.

ARTICLE V – TECHNICAL AND RESOURCE OPERATIONS

A. Each agency/member shall provide as required and requested by the Executive Council: system descriptions, technical characteristics, costs (maintenance and operational) and equipment lists for all assets to be utilized in the common infrastructure.

B. Each user/provider shall be responsible for operation and maintenance of their respective resource unless otherwise agreed to under a legally executed MOA, MOU or Cooperative Agreement. System management will be jointly agreed to and engaged, by the agencies having primary ownership in the infrastructure. Infrastructure includes radio sites land, building, power towers, microwave, and land mobile radio equipment, antennas, cables and all other accessories associated with the operation of the land mobile radio equipment.

C. The requesting agency shall be responsible for providing all required resources (equipment, facilities, software, et.) to connect to a member provider's resources unless otherwise agreed to under a legally executed MOA, MOU or Cooperative Agreement.

D. The User/Provider's primary operational commitments shall always take precedence over the requirements of a requesting agency to connect to the member provider's resources unless otherwise agreed to under a legally executed MOA, MOU or Cooperative Agreement.

ARTICLE VI – ADDITIONAL CONSIDERATIONS

A. Agency participation is contingent on and proportional to that agency's access to funding. All proposed services expressed or implied in this charter or its executed agreements are subject to and dependent upon funding available to each participating agency, that is appropriated through the participating agencies funding entity. (i.e., Congress, Alaska Legislature)

B. Agencies acquiring funding support shall execute their portion of the associated and executed MOAs, MOUs, and Cooperative Agreements in good faith.



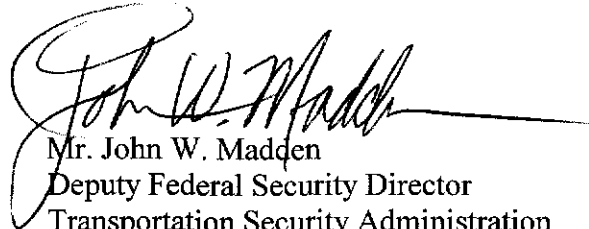
Mr. William Tandeske
Commissioner Department of Public Safety
State of Alaska
ALMR Executive Council CO-Chair



Colonel Sue Ann A. Olsavicky
HQ Alaskan Command/J6
Department of Defense (DoD)
ALMR Executive Council Co-Chair



Mr. Douglas A. Robinson
Communications Manager
Municipality of Anchorage
Alaska Municipal League
ALMR Executive Council Co-Chair



Mr. John W. Madden
Deputy Federal Security Director
Transportation Security Administration
Federal Agencies Non-DoD
ALMR Executive Council Co-Chair

Appendix B - Incident Command System (ICS)

Recommendation to the NCC Steering Committee concerning the use of the Incident Command System (ICS)

The Incident Command System (ICS), also increasingly known as the Incident Management System (IMS) has been implemented throughout the U.S. and Canadian public safety communities at all levels of government, as well as increasingly among private-sector participants. ICS is an overall incident management program designed for universal application by any public safety entity or group of entities. The objective of this paper is to provide an overview of the basic ICS structure with a focus on communications operations specifically, and to provide recommendations for the implementation of ICS to manage priority access to the 700 MHz band public safety interoperability spectrum. More specific guidelines will need to be addressed as part of the Regional Planning Process.

I. Background

ICS is a comprehensive, modular system designed to provide a systematic, flexible approach to coordinating resources and response to incidents of any size, type, or duration. Although now a comprehensive series of management guidelines designed for a variety of incidents requiring public safety involvement, ICS has its origination in the area of wildfire suppression, prompted by a disastrous series of fires in Southern California in 1970. The U. S. Forest Service thereafter undertook a five-year development effort that led to the design of the Fire-Fighting Resources of Southern California Organized for Potential Emergencies (FIREScope) system. ICS applications and users have proliferated since then. In 1980, the FIREScope plan made the transition into a national program called the National Interagency Incident Management System (NIIMS). At that time ICS became the backbone of a wider-based system for all federal. The FIREScope (NIIMS) ICS protocol and terminology became and effectively remain the baseline for all ICS programs. Virtually all ICS programs of any type or scope, and regardless of the size or function of the developing agency, incorporate NIIMS to some extent, and virtually all are consistent with NIIMS. Such programs either cite NIIMS directly, or else incorporate language taken directly from NIIMS. Specifically, the *Communications Unit* agencies with wild land fire management responsibilities. Over the past 20 years ICS has been incorporated into the emergency management plans of numerous other public safety agencies, at all levels of government, throughout North America.

In its 1996 Final Report to the Federal Communications Commission (FCC) and the National Telecommunications and Information Administration addressing public safety requirements before 2010, the Public Safety Wireless Advisory Committee (PSWAC) Interoperability Subcommittee developed its communications needs assessment under the context of ICS. Specifically, the PSWAC determined that ICS was an efficient method of incident command organization and therefore developed its communications recommendations with the expectation that ICS would be implemented by all public safety organizations.

II. Definitions

The ICS system has been incorporated into a growing number of operational variants or combinations based upon the specific mission or regional focus of the participating entities (e.g. seismic activity, wildfires, large crowds or demonstrations). Such variants include, but are by no means limited to, those developed and/or currently employed by the California Office of Emergency Services (OES), The University of Michigan at Flint (UM–Flint), National Interagency Fire Center (NIFC), the National Wildfire Coordinating Group (NWCG), Federal Emergency Management Agency (FEMA), and Search and Rescue of British Columbia (SARBC). Accordingly, several different ICS training programs have been developed, such as those currently offered by the National Fire Academy (NFA), Emergency Management Institute (EMI) the Standardized Emergency Management System (SEMS), and the NIIMS. In developing these recommendations, ICS publications either contained in or referenced by the NFA training curriculums were employed as a “baseline” reference. However, in regard to the basic structure and terminology, all ICS/IMS programs, including the NFA curriculum, are essentially derived from the original FIREScope model, and thus are substantially consistent. For the purposes of developing these recommendations, with the exception of the specific communications protocols addressed herein, “ICS” will therefore be used to apply to a generic version of the ICS/IMS management structure, which is generally applicable to all agencies currently employing ICS without regard to specifics developed for a particular purpose, location or focus.

III. Overview

The complexity of incident management, coupled with the growing need for multi–agency and multifunctional involvement on incidents, has increased the need for a single standard incident management system that can be used by all emergency response disciplines.

ICS serves as a management system designed to help mitigate incident risks by providing clear lines of authority, accurate information, strict accountability, planning, and cost–effective operations and logistical support for any incident. An ICS plan can focus on law enforcement, fire suppression, emergency medical services (EMS), or any combination thereof to whatever *Leader Position Manual*, ICS-223-5, September 1, 1982, is the primary ICS communications document, and is incorporated by reference in the NIFC, NFA, EMI and other major ICS training curricula. degree is required. Either individual or multiple agencies can use ICS—and participating entities or assets can be added, augmented, scaled back or dropped entirely at any time prior to or during the incident—either within an individual jurisdiction, or across multiple jurisdictions or regions.

This internal flexibility affords both immediate and long–term efficiencies.

ICS can be applied to a wide variety of emergency and non-emergency situations. Some examples of incidents and events that can use ICS include:

- Fires, HAZMAT, and multi-casualty incidents
- Multi-jurisdiction and multi–agency disasters
- Wide–area search and rescue missions

- Planned events; e.g., celebrations, parades, concerts

The key element of ICS is that only one individual will be vested with a particular command and control action, and all command and control functions will ultimately be derived from one central authority.

ICS is organized around five major management activities. *Command* has overall responsibility at the incident or event. It determines objectives and establishes priorities based on the nature of the incident, available resources and agency policy. *Operations* develops the tactical organization and directs all resources to carry out the Incident Action Plan. *Planning* develops the Incident Action Plan to accomplish the objectives. It also collects and evaluates information and maintains status of assigned resources and functions. *Logistics* provides resources and all other services needed to support the organization, to include the coordination and implementation of communications functions. *Finance/Administration* monitors costs related to the incident, provides accounting, procurement, time recording, cost analysis, and overall fiscal guidance. These five major management activities are the foundation upon which the ICS organization is based, and are applicable to any ICS program or incident regardless of size or type.

The person designated with overall management authority is the Incident Commander (IC). The IC may manage all or part of the five major activities directly, or may opt to delegate such functions as required along the same lines of authority. A basic ICS operating guideline is that the IC is responsible until specific authority is transferred or delegated to another person. Large incidents usually require each of these activities to be established as separate sections within the organization, with appropriate delegation of authority from the IC to specific subordinate positions. Each of the primary ICS sections may be further sub-divided within their original structure as needed, again, while maintaining a clear flow of authorization directly to and from the IC. The IC will thereby determine if the specific incident requires the use of all sections and the staffing and resources to be allocated to a particular section. Regardless of the number of additional subordinate “layers,” as with the IC, responsibility is passed to and held by the designated individual(s) until either transferred to a relief, delegated to a subordinate, or until the incident is concluded altogether.

Facilities will be established depending on the kind and complexity of the incident or event, with standard terminology applied to the principal ICS facilities. These include *Incident Command Post (ICP)*, which serves as the “hub” of all command and control functions, to include communications, and from which the IC normally oversees all incident operations. There is only one ICP for each incident and every incident must have some form of an ICP. Other locations are established according to need: *Staging Areas* are locations at which resources are kept while awaiting incident assignment. Most large incidents will have a staging area, and some incidents may have several. The *Base* is a location at the incident at which primary service and support activities are performed. *Camps* are incident locations where resources may be kept to support incident operations. Camps differ from Staging Areas in that essential support operations are done at Camps, and resources at Camps are not always immediately available for use. The *Helibase* is a location in and around an incident area, at which helicopters may be parked,

maintained, fueled, and equipped for incident operations. *Helispots* are temporary locations where helicopters can land and load and off-load personnel, equipment, and supplies. Any number of additional or alternative sites (e.g. medical support, dining and sanitary facilities) may be designated in accordance with a predetermined ICS plan, or as determined by the IC. Each incident will also have an oral or written Incident Action Plan. The purpose of the plan is to provide all incident supervisory personnel with direction for future actions. Action plans that include the measurable tactical operations to be achieved are always prepared around a time frame called an Operational Period.

Operational Periods can be of various lengths, but should be no longer than twenty-four hours. The planning for an operational period must be done far enough in advance to ensure those registered resources are available when the Operational Period begins.

IV. ICS Communications Infrastructure

Centrally managed, interoperable communications are essential for virtually every aspect of the ICS structure to function. Communications to be used at the incident site require advance planning, to include the development of frequency inventories, frequency-sharing agreements, use of synthesized mobile / portable radio equipment, and the use of available local, state and federal communications equipment, all of which will be combined as part of the available ICS infrastructure. It is anticipated that the RPCs, with the advice and support of the State Interoperability Executive Committees (SIEC), will be pivotal in addressing these areas as part of an overall ICS communications plan.

Communications during ICS incidents of any size are managed through the use of an incident communications center and a communications plan established for the use of command as well as tactical and support resources assigned to the incident. Many local governments, whether participating in ICS plans or not, have established Emergency Operations Centers (EOCs), which can be activated quickly to facilitate centralized command and control during incident response. When a local government EOC is activated, SEMS regulations require the establishment of communication and coordination between the IC and the department operations center of the EOC, or the EOC itself, and also between the EOC and any state or local jurisdiction(s) having authority within the incident's boundaries.

ICS field response organizations will normally communicate with the local government level (either department operating centers or EOCs) through dispatch centers. Dispatch centers will not have command authority over incidents, but will act as directed by the IC or other designated authority in accordance with agency or jurisdiction policy, or as specifically delineated within the applicable ICS plan. Because of the potential number and diversity of communications systems involved, agency dispatch centers will often function in an intermediate role between IC, personnel in the field, and department operations centers or EOCs. Also, in some cases under heavy load conditions, agencies may elect to move into an "expanded dispatch" mode, which may involve the delegation of a higher level of authority at the agency dispatch facility. Dispatch centers may be departmental or may be centralized within the jurisdiction. Some jurisdictions have the capability to go from departmental dispatching to centralized dispatching

when the local government EOC is activated. The jurisdiction's dispatching arrangements and communication capability along with local policy will affect how operations are linked to the local government level.

In many jurisdictions, the ICS field response organizations will be primarily linked via the dispatch center(s) to the department operations center (DOC) of the agency that has jurisdiction over the incident. In these cases, DOCs have agency level authority over the assigned IC. The DOC is responsible for coordinating with the local government EOC. Alternatively, in some jurisdictions, ICS field response organizations may have direct communications with and/or receive

policy direction from the local government EOC when it is activated. Whether this occurs, along with other possible operational variations consistent with the overall ICS management scheme, will depend on the size and policy of the jurisdiction, and the lines of communications that are available.

V. Plain Language Usage

It should be emphasized that, under ICS communications guidelines, plain language is to be used at all times.

VI. ICS Communications Management

As noted above, ICS Communications are organized as a component of the Logistics branch. The Communications Unit Leader, as detailed in the Communications Unit Leader Position Manual (ICS 223–5, originally developed by FIREScope) is therefore under the direction of the Service Branch Director or Logistics Section Chief, who in turn report directly to the IC. The Communications Unit Leader is responsible for developing plans for the effective use of incident communications equipment and facilities; installing and testing of communications equipment; supervision of the incident communications center; distribution of communications equipment to incident personnel; and the maintenance and repair of communications equipment. The Communications Unit Leader's specific responsibilities include, but are not necessarily limited to:

- Obtain a briefing from the Service Branch OIC or Logistics OIC
- Determine Communications unit personnel needs
- Advise on communication capabilities and limitations
- Prepare and implement the Incident Radio Communications Plan
- Ensure that the Incident Communications Center and Message Center are established as necessary
- Set up LMR/CMR, telephone and public address systems as necessary
- Establish appropriate communications distribution and maintenance locations within or adjacent to the ICP, at the base(s) or in remote locations (e.g. camps, helispots)
- Ensure communications systems are installed, tested, and repaired as necessary
- Ensure an equipment accountability system is established and maintained
- Ensure personal portable radio equipment is distributed per the Incident Control Radio

- Plan with consideration to battery replacement or recharging
- Provide technical information as required concerning:
 - Adequacy of communications systems currently in operation
 - Geographic limitation on communications systems
 - Equipment capabilities
 - Amount and type of equipment available
 - Anticipated problems and shortfalls concerning the use of communications equipment
- Supervise all Communication Unit activities
- Maintain records relating to the communications equipment as appropriate, to include channel settings on programmable radios
- Receive equipment from relieved or released units and reassign as necessary
- Maintain the Communications Unit Log

As with every other aspect of ICS, the Communications Unit Leader is allowed a considerable amount of discretion regarding the set- up and utilization of the specific communications network and individual elements within it. However, on some basis, the Communications Unit Leader, either directly or through the Head Dispatcher (if multiple dispatchers are used), or Incident Dispatcher (if a single dispatcher is used), will directly manage the use and prioritization of communications channels. This individual's specific duties include, but are not necessarily limited to:

- Obtain a briefing from the Communications Unit Leader
- Determine
 - Location of assignment
 - Communications procedures
 - Frequencies in use
 - Nets established or to be established
 - Equipment status
 - Capabilities, limitation and restrictions
 - Location of repeaters
 - Message center problems
- Ensure adequate communications center staffing levels as appropriate
- Obtain and review the Incident Action Plan to determine the incident organization and Communications Plan
- Set up the Communications Center, check out and test equipment
- Request servicing or replacement of any inoperative or marginal equipment
- Set up message center location as required
- Receive and transmit messages within and external to the incident
- Maintain files or Status Changes and General Messages
- Maintain a record of unusual incident occurrences affecting or potentially affecting communications
- Provide a briefing to relief on
 - Current activities

- Equipment status
 - Any unusual communications situations
- Turn in appropriate documents to Communications Unit Leader
- Stand down / demobilize the Communications Center in accordance with the ICS Incident Demobilization Plan
- Maintain radio traffic logs

In addition to, or as a component of, the previously described positions, the Emergency Communications Coordinator (ECC) is responsible for emergency warnings and communications. Dispatcher(s) shall perform this function at the direction of the IC or the Communications Unit Leader, if applicable. The primary responsibilities of the ECC include:

- Activating the on site warning and instructional systems as directed by the IC
- Establishing communication links between the ICP and public news and information agencies
- Establishing a message control system for logging messages received by and dispatched from the IC and/or the ICP
- Maintaining primary and backup communications systems between the IC, the ICP, various responding personnel, departments on site and the local emergency management agencies, as directed by the IC or appropriate authority
- Receiving and disseminating information to appropriate individuals

As a component of directly overseeing the operation of the communications network, the Communications Unit Leader directly, or through the ECC, Lead or Incident Dispatcher(s), or some other position within the Communications Unit specifically delegated as such will be tasked with monitoring, assigning, and prioritizing the use of all radio communications channels, to include interoperability channels, in accordance with the Priority Access Levels discussed below. As with every other ICS position, the person tasked with channel management (“Channel Manager”) would have sole discretionary authority delegated through as many steps as necessary, but deriving directly from the IC.

VII. The ICS Communications Plan

The ICS Incident Radio Communications Plan is intended to provide documentation of all pertinent information concerning all radio frequency assignment, in one centralized and accessible location, for each operational period. The plan is a summary of information obtained from the Radio Requirements Worksheet (ICS Form 216), and the Radio Frequency Assignment Worksheet (ICS Form 217). Information from the Radio Communications Plan on Frequency Assignment is normally placed on the appropriate Assignment List (ICS Form 204). At a minimum, the Incident Radio Communications Plan must delineate the Basic Radio Channel Utilization System/Cache, Channel(s) utilized, function, frequency, and assignment. Detailed instructions regarding preparing the above forms may be found in ICS 223–5 discussed previously.

VIII. Calling Channel Monitoring

It is implicit in the development of an ICS plan that all participating entities will monitor the calling channels for the 700 MHz interoperability spectrum on a 24-hour basis as already recommended by the NCC for incorporation into the FCC Rules for the 700 MHz band as per the National Public Safety Planning Advisory Committee (NPSPAC) guidelines.

IX. Priority Access Levels

The NCC has recommended the FCC mandate priority access for users in critical situations only. During incidents where Priority Access has been initiated, the Channel Manager would assign channels through the calling channel based on priority. The NCC suggested the following priorities from highest to lowest:

Level 1—Disaster and extreme emergency operations for mutual aid and interagency Communications

Level 2—Emergency or urgent operations involving imminent danger to life or property

Level 3—Special event control, generally preplanned (including task force operations)

Level 4—Single agency secondary communications (default priority)

In such cases where a higher priority party would require access to the channel, the Channel Manager would be authorized to restrict access to lower-priority users, or to direct any lower priority party already using the channel to cease communications to the extent necessary until such time as that party could be reassigned subsequent to the clearing of a channel by a higher priority user. Such restrictions could be imposed at any time, and for any duration required, up until the incident is concluded and the control of the interoperable spectrum is returned to the Regional Planning Committee (RPC) or other non-emergency channel management authority.

X. Regional ICS Planning

One of the major features of ICS is its inherent flexibility to meet the needs of any size or number of organizations, and any type of incident. It is expected that each RPC, with the support of its SIEC, will assist in the development and implementation of a specific ICS plan or plans for that region in accordance with these guidelines and within the scope of the functions already recommended by the NCC for these entities.

XI. Conclusions

1. ICS is a sound concept that has a proven track record of success over more than 30 years of development throughout North America.
2. ICS allows users to effectively manage and combat incidents by providing a simple and consistent organizational plan that is full scalable and applicable to any size or type of

emergency or non-emergency incident requiring the support of public safety entities.

3. ICS is already available in a variety of regionally or functionally oriented training curriculums, and can be adapted to existing emergency management infrastructure.

4. ICS is inherently simple, and can be learned by both operational and management personnel, and implemented quickly.

5. Because of its flexibility, ICS would be effective for any public safety agency regardless of size or mission.

6. ICS can provide significant benefit when used by public safety agencies to manage priority access to the interoperability spectrum, or as a component of a new or existing Incident Radio Communications Plan.

7. In accordance with ICS guidelines, the position of Channel Manager or equivalent authority needs to be established as an individual position, or otherwise incorporated as a specifically delegated component of the Communications Unit Leader, ECC, Head/Incident Dispatcher, or other clearly defined position.

STATE OF ALASKA

Department of Public Safety

OFFICE OF THE COMMISSIONER

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April 10, 2003

Department of Defense
HQ Alaskan Command/J6
9480 Pease Avenue, Suite 309
Elmendorf AFB AK 99504-2001

Subject: Sharing Agreement

To Whom It May Concern:

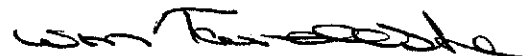
The State of Alaska Department of Public Safety authorizes the Department of Defense Alaskan Command and Alaska based service components to operate mobile (vehicular and hand-held) subscriber radios on state licensed trunked radio repeaters associated with the Alaska Land Mobile Radio statewide trunk radio system. Such operation shall be per all rules, regulations, waivers, approvals, agreements and assignments made by the Federal Communications Commission and the State of Alaska per the following parameters.

<u>Call Sign</u>	<u>Frequency(ies)</u>	<u>Max. Power</u>	<u>Channel Description</u>
TBP	154.6500	125 Watts	Trunked Repeater
TBP	154.6625	125 Watts	Trunked Repeater
TBP	154.6750	125 Watts	Trunked Repeater
TBP	154.6875	125 Watts	Trunked Repeater

(Additional frequencies/channels are attached)

This written agreement applies to operations in cooperation and coordination with activities of the licensee per Region (2) Plan, FCC Rules 47 CFR Parts 2.102(c), 2.103 and 90.421 and Part 7.12 of the NTIA Manual. Furthermore, grantor reserves the right to effectively eliminate the possibility of unauthorized operation, which ultimately could result in terminating this written agreement.

Sincerely,



William Tandeske
Commissioner

cc: Ray Matiashowski, Deputy Commissioner
Department of Administration

ADDITIONAL FREQUENCIES/CHANNELS

<u>Call Sign</u>	<u>Frequency(ies)</u>	<u>Max. Power</u>	<u>Channel Description</u>
TBP	154.7000	125 Watts	Trunked Repeater
TBP	154.7125	125 Watts	Trunked Repeater
TBP	154.7250	125 Watts	Trunked Repeater
TBP	154.7375	125 Watts	Trunked Repeater
TBP	154.7500	125 Watts	Trunked Repeater
TBP	154.7625	125 Watts	Trunked Repeater
TBP	154.7750	125 Watts	Trunked Repeater
TBP	154.7875	125 Watts	Trunked Repeater
TBP	154.8000	125 Watts	Trunked Repeater
TBP	154.8125	125 Watts	Trunked Repeater
TBP	154.8250	125 Watts	Trunked Repeater
TBP	154.8375	125 Watts	Trunked Repeater
TBP	154.8500	125 Watts	Trunked Repeater
TBP	154.8625	125 Watts	Trunked Repeater
TBP	154.8750	125 Watts	Trunked Repeater
TBP	154.8875	125 Watts	Trunked Repeater
TBP	154.9000	125 Watts	Trunked Repeater
TBP	154.9125	125 Watts	Trunked Repeater
TBP	154.9250	125 Watts	Trunked Repeater
TBP	154.9375	125 Watts	Trunked Repeater
TBP	154.9500	125 Watts	Trunked Repeater
TBP	154.9625	125 Watts	Trunked Repeater
TBP	154.9750	125 Watts	Trunked Repeater
TBP	154.9875	125 Watts	Trunked Repeater
TBP	155.0000	125 Watts	Trunked Repeater
TBP	155.0125	125 Watts	Trunked Repeater
TBP	155.0250	125 Watts	Trunked Repeater
TBP	155.0375	125 Watts	Trunked Repeater
TBP	155.0500	125 Watts	Trunked Repeater
TBP	155.0625	125 Watts	Trunked Repeater
TBP	155.0750	125 Watts	Trunked Repeater
TBP	155.0875	125 Watts	Trunked Repeater
TBP	155.1000	125 Watts	Trunked Repeater
TBP	155.1125	125 Watts	Trunked Repeater
TBP	155.1250	125 Watts	Trunked Repeater
TBP	155.1375	125 Watts	Trunked Repeater
TBP	155.1500	125 Watts	Trunked Repeater
TBP	155.1625	125 Watts	Trunked Repeater
TBP	155.1750	125 Watts	Trunked Repeater
TBP	155.1875	125 Watts	Trunked Repeater
TBP	155.2000	125 Watts	Trunked Repeater

TBP	155.2125	125 Watts	Trunked Repeater
TBP	155.2250	125 Watts	Trunked Repeater
TBP	155.2375	125 Watts	Trunked Repeater
TBP	155.2500	125 Watts	Trunked Repeater
TBP	155.2625	125 Watts	Trunked Repeater
TBP	155.2750	125 Watts	Trunked Repeater
TBP	155.2875	125 Watts	Trunked Repeater
TBP	155.3000	125 Watts	Trunked Repeater
TBP	155.3125	125 Watts	Trunked Repeater
TBP	155.3250	125 Watts	Trunked Repeater
TBP	155.3375	125 Watts	Trunked Repeater
TBP	155.3500	125 Watts	Trunked Repeater
TBP	155.3625	125 Watts	Trunked Repeater
TBP	155.3750	125 Watts	Trunked Repeater
TBP	155.3875	125 Watts	Trunked Repeater
TBP	155.4000	125 Watts	Trunked Repeater
TBP	155.4125	125 Watts	Trunked Repeater
TBP	155.4250	125 Watts	Trunked Repeater
TBP	155.4375	125 Watts	Trunked Repeater
TBP	155.4500	125 Watts	Trunked Repeater
TBP	155.4625	125 Watts	Trunked Repeater
TBP	155.4750	125 Watts	Trunked Repeater
TBP	155.4875	125 Watts	Trunked Repeater
TBP	155.5000	125 Watts	Trunked Repeater
TBP	155.5125	125 Watts	Trunked Repeater
TBP	155.5250	125 Watts	Trunked Repeater
TBP	155.5375	125 Watts	Trunked Repeater
TBP	155.5500	125 Watts	Trunked Repeater
TBP	155.5625	125 Watts	Trunked Repeater
TBP	155.5750	125 Watts	Trunked Repeater
TBP	155.5875	125 Watts	Trunked Repeater
TBP	155.6000	125 Watts	Trunked Repeater
TBP	155.6125	125 Watts	Trunked Repeater
TBP	155.6250	125 Watts	Trunked Repeater
TBP	155.6375	125 Watts	Trunked Repeater
TBP	155.6500	125 Watts	Trunked Repeater
TBP	155.6625	125 Watts	Trunked Repeater
TBP	155.6750	125 Watts	Trunked Repeater
TBP	155.6875	125 Watts	Trunked Repeater
TBP	155.7000	125 Watts	Trunked Repeater
TBP	155.7125	125 Watts	Trunked Repeater
TBP	155.7250	125 Watts	Trunked Repeater
TBP	155.7375	125 Watts	Trunked Repeater
TBP	155.7500	125 Watts	Trunked Repeater
TBP	155.7625	125 Watts	Trunked Repeater

TBP	155.7750	125 Watts	Trunked Repeater
TBP	155.7875	125 Watts	Trunked Repeater
TBP	155.8000	125 Watts	Trunked Repeater
TBP	155.8125	125 Watts	Trunked Repeater
TBP	155.8250	125 Watts	Trunked Repeater
TBP	155.8375	125 Watts	Trunked Repeater
TBP	155.8500	125 Watts	Trunked Repeater
TBP	155.8625	125 Watts	Trunked Repeater
TBP	155.8750	125 Watts	Trunked Repeater
TBP	155.8875	125 Watts	Trunked Repeater
TBP	155.9000	125 Watts	Trunked Repeater
TBP	155.9125	125 Watts	Trunked Repeater
TBP	155.9250	125 Watts	Trunked Repeater
TBP	155.9375	125 Watts	Trunked Repeater
TBP	155.9500	125 Watts	Trunked Repeater
TBP	155.9625	125 Watts	Trunked Repeater
TBP	155.9750	125 Watts	Trunked Repeater
TBP	155.9875	125 Watts	Trunked Repeater
TBP	156.0000	125 Watts	Trunked Repeater
TBP	156.0125	125 Watts	Trunked Repeater
TBP	156.0250	125 Watts	Trunked Repeater
TBP	156.0375	125 Watts	Trunked Repeater
TBP	156.0500	125 Watts	Trunked Repeater
TBP	156.0625	125 Watts	Trunked Repeater
TBP	156.0750	125 Watts	Trunked Repeater
TBP	156.0875	125 Watts	Trunked Repeater
TBP	156.1000	125 Watts	Trunked Repeater
TBP	156.1125	125 Watts	Trunked Repeater
TBP	156.1250	125 Watts	Trunked Repeater
TBP	156.1375	125 Watts	Trunked Repeater
TBP	156.1500	125 Watts	Trunked Repeater
TBP	156.1625	125 Watts	Trunked Repeater
TBP	156.1750	125 Watts	Trunked Repeater
TBP	156.1875	125 Watts	Trunked Repeater
TBP	156.2000	125 Watts	Trunked Repeater
TBP	156.2125	125 Watts	Trunked Repeater
TBP	156.2250	125 Watts	Trunked Repeater
TBP	156.2375	125 Watts	Trunked Repeater



HEADQUARTERS
ALASKAN COMMAND (ALCOM)
ELMENDORF AIR FORCE BASE, ALASKA 99506

MEMORANDUM FOR: State of Alaska
Department of Administration
Chief Information Officer

10 April 2003

FROM: HQ Alaskan Command/J6
9480 Pease Ave Ste 309
Elmendorf AFB AK 99506-2100


SUBJECT: Sharing Agreement

Department of Defense Alaska (grantor) authorizes State of Alaska (grantee) to operate mobile (vehicular or hand-held) radios on the radio frequency spectrum resource identified below. Such operation shall be per all rules, regulations, waivers, approvals, agreements and assignments made by the National Telecommunications & Information Administration (NTIA), the Department of Defense and the following parameters.

<u>Call Sign</u>	<u>Frequency(ies)</u>	<u>Max. Power</u>	<u>Channel Description</u>
TBP	138.0125	50 Watts	Trunked Mobile/Portable
TBP	138.0375	50 Watts	Trunked Mobile/Portable
TBP	138.0625	50 Watts	Trunked Mobile/Portable
TBP	138.0875	50 Watts	Trunked Mobile/Portable

(Additional frequencies/channels are attached)

This written agreement applies to operations in cooperation and coordination with activities of the licensee per Region (2) Plan, FCC Rules 47 CFR Parts 2.102(c), 2.103 and 90.421 and Part 7.12 of the NTIA Manual and applicable waivers authorized by the FCC and NTIA. Furthermore, grantor reserves the right to effectively eliminate the possibility of unauthorized operation, which ultimately could result in terminating this written agreement.


SUE ANN A. OLSAVICKY, Colonel, USAF
Director Command, Control, Communications
and Computer Systems

<u>Call Sign</u>	<u>Frequency(ies)</u>	<u>Max. Power</u>	<u>Channel Description</u>
TBP	138.1125	50 Watts	Trunked Mobile/Portable
TBP	138.1375	50 Watts	Trunked Mobile/Portable
TBP	138.1625	50 Watts	Trunked Mobile/Portable
TBP	138.1875	50 Watts	Trunked Mobile/Portable
TBP	138.2125	50 Watts	Trunked Mobile/Portable
TBP	138.2375	50 Watts	Trunked Mobile/Portable
TBP	138.2625	50 Watts	Trunked Mobile/Portable
TBP	138.2875	50 Watts	Trunked Mobile/Portable
TBP	138.3125	50 Watts	Trunked Mobile/Portable
TBP	138.3375	50 Watts	Trunked Mobile/Portable
TBP	138.3625	50 Watts	Trunked Mobile/Portable
TBP	138.3875	50 Watts	Trunked Mobile/Portable
TBP	138.4125	50 Watts	Trunked Mobile/Portable
TBP	138.4375	50 Watts	Trunked Mobile/Portable
TBP	138.4625	50 Watts	Trunked Mobile/Portable
TBP	138.4875	50 Watts	Trunked Mobile/Portable
TBP	138.5125	50 Watts	Trunked Mobile/Portable
TBP	138.5375	50 Watts	Trunked Mobile/Portable
TBP	138.5625	50 Watts	Trunked Mobile/Portable
TBP	138.5875	50 Watts	Trunked Mobile/Portable
TBP	138.6125	50 Watts	Trunked Mobile/Portable
TBP	138.6375	50 Watts	Trunked Mobile/Portable
TBP	138.6625	50 Watts	Trunked Mobile/Portable
TBP	138.6875	50 Watts	Trunked Mobile/Portable
TBP	138.7125	50 Watts	Trunked Mobile/Portable
TBP	138.7375	50 Watts	Trunked Mobile/Portable
TBP	138.7625	50 Watts	Trunked Mobile/Portable
TBP	138.7875	50 Watts	Trunked Mobile/Portable
TBP	138.8125	50 Watts	Trunked Mobile/Portable
TBP	138.8375	50 Watts	Trunked Mobile/Portable
TBP	138.8625	50 Watts	Trunked Mobile/Portable
TBP	138.8875	50 Watts	Trunked Mobile/Portable
TBP	138.9125	50 Watts	Trunked Mobile/Portable
TBP	138.9375	50 Watts	Trunked Mobile/Portable
TBP	138.9625	50 Watts	Trunked Mobile/Portable
TBP	138.9875	50 Watts	Trunked Mobile/Portable
TBP	140.0125	50 Watts	Trunked Mobile/Portable
TBP	140.0375	50 Watts	Trunked Mobile/Portable
TBP	140.0625	50 Watts	Trunked Mobile/Portable
TBP	140.0875	50 Watts	Trunked Mobile/Portable
TBP	140.1125	50 Watts	Trunked Mobile/Portable

TBP	140.1375	50 Watts	Trunked Mobile/Portable
TBP	140.1625	50 Watts	Trunked Mobile/Portable
TBP	140.1875	50 Watts	Trunked Mobile/Portable
TBP	140.2125	50 Watts	Trunked Mobile/Portable
TBP	140.2375	50 Watts	Trunked Mobile/Portable
TBP	140.2625	50 Watts	Trunked Mobile/Portable
TBP	140.2875	50 Watts	Trunked Mobile/Portable
TBP	140.3125	50 Watts	Trunked Mobile/Portable
TBP	140.3375	50 Watts	Trunked Mobile/Portable
TBP	140.3625	50 Watts	Trunked Mobile/Portable
TBP	140.3875	50 Watts	Trunked Mobile/Portable
TBP	140.4125	50 Watts	Trunked Mobile/Portable
TBP	140.4375	50 Watts	Trunked Mobile/Portable
TBP	140.4625	50 Watts	Trunked Mobile/Portable
TBP	140.4875	50 Watts	Trunked Mobile/Portable
TBP	140.5125	50 Watts	Trunked Mobile/Portable
TBP	140.5375	50 Watts	Trunked Mobile/Portable
TBP	140.5625	50 Watts	Trunked Mobile/Portable
TBP	140.5875	50 Watts	Trunked Mobile/Portable
TBP	140.6125	50 Watts	Trunked Mobile/Portable
TBP	140.6375	50 Watts	Trunked Mobile/Portable
TBP	140.6625	50 Watts	Trunked Mobile/Portable
TBP	140.6875	50 Watts	Trunked Mobile/Portable
TBP	140.7125	50 Watts	Trunked Mobile/Portable
TBP	140.7375	50 Watts	Trunked Mobile/Portable
TBP	140.7625	50 Watts	Trunked Mobile/Portable
TBP	140.7875	50 Watts	Trunked Mobile/Portable
TBP	140.8125	50 Watts	Trunked Mobile/Portable
TBP	140.8375	50 Watts	Trunked Mobile/Portable
TBP	140.8625	50 Watts	Trunked Mobile/Portable
TBP	140.8875	50 Watts	Trunked Mobile/Portable
TBP	140.9125	50 Watts	Trunked Mobile/Portable
TBP	140.9375	50 Watts	Trunked Mobile/Portable
TBP	140.9625	50 Watts	Trunked Mobile/Portable
TBP	140.9875	50 Watts	Trunked Mobile/Portable
TBP	142.0125	50 Watts	Trunked Mobile/Portable
TBP	142.0375	50 Watts	Trunked Mobile/Portable
TBP	142.0625	50 Watts	Trunked Mobile/Portable
TBP	142.0875	50 Watts	Trunked Mobile/Portable
TBP	142.1125	50 Watts	Trunked Mobile/Portable
TBP	142.1375	50 Watts	Trunked Mobile/Portable
TBP	142.1625	50 Watts	Trunked Mobile/Portable
TBP	142.1875	50 Watts	Trunked Mobile/Portable

TBP	142.2125	50 Watts	Trunked Mobile/Portable
TBP	142.2375	50 Watts	Trunked Mobile/Portable
TBP	142.2625	50 Watts	Trunked Mobile/Portable
TBP	142.2875	50 Watts	Trunked Mobile/Portable
TBP	142.3125	50 Watts	Trunked Mobile/Portable
TBP	142.3375	50 Watts	Trunked Mobile/Portable
TBP	142.3625	50 Watts	Trunked Mobile/Portable
TBP	142.3875	50 Watts	Trunked Mobile/Portable
TBP	142.4125	50 Watts	Trunked Mobile/Portable
TBP	142.4375	50 Watts	Trunked Mobile/Portable
TBP	142.4625	50 Watts	Trunked Mobile/Portable
TBP	142.4875	50 Watts	Trunked Mobile/Portable
TBP	142.5125	50 Watts	Trunked Mobile/Portable
TBP	142.5375	50 Watts	Trunked Mobile/Portable
TBP	142.5625	50 Watts	Trunked Mobile/Portable
TBP	142.5875	50 Watts	Trunked Mobile/Portable
TBP	142.6125	50 Watts	Trunked Mobile/Portable
TBP	142.6375	50 Watts	Trunked Mobile/Portable
TBP	142.6625	50 Watts	Trunked Mobile/Portable
TBP	142.6875	50 Watts	Trunked Mobile/Portable
TBP	142.7125	50 Watts	Trunked Mobile/Portable
TBP	142.7375	50 Watts	Trunked Mobile/Portable
TBP	142.7625	50 Watts	Trunked Mobile/Portable
TBP	142.7875	50 Watts	Trunked Mobile/Portable
TBP	142.8125	50 Watts	Trunked Mobile/Portable
TBP	142.8375	50 Watts	Trunked Mobile/Portable
TBP	142.8625	50 Watts	Trunked Mobile/Portable
TBP	142.8875	50 Watts	Trunked Mobile/Portable
TBP	142.9125	50 Watts	Trunked Mobile/Portable
TBP	142.9375	50 Watts	Trunked Mobile/Portable
TBP	142.9625	50 Watts	Trunked Mobile/Portable
TBP	142.9875	50 Watts	Trunked Mobile/Portable

APPENDIX E – Interoperability Channels

The following channels are designated for Interoperability under Part 90 of the FCC Rules, Subparts B, R and S: 47 CFR 90.20(c), 90.531(b), 90.617(a)(1), and 90.619(c)(1).

Frequency - MHz	Base/Mobile	Radio Service	Use / Miscellaneous Note
151.1375	B/M	Highway Maintenance	90.20(C) {Fn 80}
154.4525	B/M	Fire	90.20(C) {Fn 80}
155.7525	B/M	Any Public Safety	Calling Channel 90.20(C) {Fn 80}[Fn 83]
158.7375	B/M	Police	90.20(C) {Fn 80}
159.4725	B/M	Forestry-Conservation	90.20(C) {Fn 80}
453.2125	B/M	Any Public Safety	Calling Channel 90.20(C) {Fn 80}[Fn 83]
453.4625	B/M	Any Public Safety	90.20(C) {Fn 80}
453.7125	B/M	Any Public Safety	90.20(C) {Fn 80}
453.8625	B/M	Any Public Safety	90.20(C) {Fn 80}
458.2125	M	Any Public Safety	Calling Channel 90.20(C) {Fn 80}[Fn 83]
458.4625	M	Any Public Safety	90.20(C) {Fn 80}
458.8625	M	Any Public Safety	90.20(C) {Fn 80}
764.14375 Channel 23-24 ¹	B/M	General Public Safety	Secondary Trunked 90.531(B)(1) And (B)(1)(Iii)
764.24375 Channel 39-40	B/M	General Public Safety	Calling Channel 90.531(B)(1) And (B)(1)(Ii)
764.39375 Channel 63-64	B/M	Emergency Medical	May Be Trunked 90.531(B)(1) And (B)(1)(Iii)
764.49375 Channel 79-80	B/M	Emergency Medical	90.531(B)(1)
764.64375 Channel 103-104 ²	B/M	General Public Safety	Secondary Trunked 90.531(B)(1) And (B)(1)(Iii)
764.74375 Channel 119-120	B/M	General Public Safety	90.531(B)(1)
764.89375 Channel 143-144	B/M	Fire Service	May Be Trunked 90.531(B)(1) And (B)(1)(Iii)
764.99375 Channel 159-160	B/M	Fire Service	90.531(B)(1)
765.14375 Channel 183-184 ³	B/M	General Public Safety	Secondary Trunked 90.531(B)(1) And (B)(1)(Iii)

¹ Trunking is permitted on the 4 channel sets indicated. The two channels immediately below each of these channels are reserve channels that may be combined with these channels for trunking systems that use 25 kHz channel bandwidths.

² Ibid

³ Ibid

<u>Frequency - MHz</u>	<u>Base/Mobile</u>	<u>Radio Service</u>	<u>Use / Miscellaneous Note</u>
765.24375 Channel 199-200	B/M	General Public Safety	90.531(B)(1)
765.39375 Channel 223-224	B/M	Law Enforcement	May Be Trunked 90.531(B)(1) And (B)(1)(Iii)
765.49375 Channel 239-240	B/M	Law Enforcement	90.531(B)(1)
765.64375 Channel 263-264 ⁴	B/M	General Public Safety	Secondary Trunked 90.531(B)(1) And (B)(1)(Iii)
765.74375 Channel 279-280	B/M	General Public Safety	Data Channel ⁵ 90.531(B)(1) And (B)(1)(I)
765.89375 Channel 303-304	B/M	Mobile Repeater	May Be Trunked 90.531(B)(1) And (B)(1)(Iii)
765.99375 Channel 319-320	B/M	Other Public Service	90.531(B)(1)
774.00625 Channel 641-642	B/M	Emergency Medical	90.531(B)(1)
774.10625 Channel 657-658	B/M	General Public Safety	Secondary Trunked 90.531(B)(1)
774.25625 Channel 681-682	B/M	General Public Safety	Calling Channel 90.531(B)(1) And (B)(1)(Ii)
774.35625 Channel 697-698	B/M	Any Public Safety	90.531(B)(1)
774.50625 Channel 721-722	B/M	Emergency Medical	90.531(B)(1)
774.60625 Channel 737-738	B/M	General Public Safety	Secondary Trunked 90.531(B)(1)
774.75625 Channel 761-762	B/M	General Public Safety	90.531(B)(1)
774.85625 Channel 777-778	B/M	Fire Service	90.531(B)(1)
775.00625 Channel 801-802	B/M	Law Enforcement	90.531(B)(1)
775.10625 Channel 817-818	B/M	General Public Safety	Secondary Trunked 90.531(B)(1)
775.25625 Channel 841-842	B/M	General Public Safety	90.531(B)(1)
775.35625 Channel 857-858	B/M	Law Enforcement	90.531(B)(1)
775.50625 Channel 881-882	B/M	Mobile Repeater	90.531(B)(1)
775.60625	B/M	Emergency Medical	Secondary Trunked

⁴ Ibid⁵ Only ANSI/TIA/EIA 102 (Project 25) data standard compliant equipment is permitted to use the data channels.

Frequency - MHz	Base/Mobile	Radio Service	Use / Miscellaneous Note
Channel 897-898			90.531(B)(1)
775.75625 Channel 921-922	B/M	General Public Safety	Data Channel ⁶ 90.531(B)(1) And (B)(1)(I)
775.85625 Channel 937-938	B/M	Other Public Safety	90.531(B)(1)
821.0125 Channel 601	M	Any Public Safety	Calling Channel General Docket 87-112 90.617(A)(1) And 90.619(C)(1)
821.5125 Channel 639	M	Any Public Safety	90.617(A)(1) And 90.619(C)(1)
822.0125 Channel 677	M	Any Public Safety	General Docket 87-112 90.617(A)(1) And 90.619(C)(1)
822.5125 Channel 715	M	Any Public Safety	General Docket 87-112 90.617(A)(1) And 90.619(C)(1)
823.0125 Channel 753	M	Any Public Safety	General Docket 87-112 90.617(A)(1) And 90.619(C)(1)
866.0125 Channel 601	B/M	Any Public Safety	Calling Channel General Docket 87-112 90.617(A)(1) And 90.619(C)(1)
826.5125 Channel 639	B/M	Any Public Safety	General Docket 87-112 90.617(A)(1) And 90.619(C)(1)
867.0125 Channel 677	B/M	Any Public Safety	General Docket 87-112 90.617(A)(1) And 90.619(C)(1)
867.5125 Channel 715	B/M	Any Public Safety	General Docket 87-112 90.617(A)(1) And 90.619(C)(1)
868.0125 Channel 753	B/M	Any Public Safety	General Docket 87-112 90.617(A)(1) And 90.619(C)(1)

700 MHz Interoperability Channel Technical Parameters⁷

ANSI/TIA/EIA-102 (Project 25) Common Air Interface

Certain common Project 25 parameters need to be defined to ensure digital radios operating on the 700 MHz Interoperability Channels can communicate. This is analogous to defining the common CTCSS tone used on NPSPAC analog Interoperability channels.

Network Access Code

In the Project 25 Common Air Interface definition, the Network Access Code is analogous to the use of CTCSS and CDCSS signals in analog radio systems. It is a code transmitted in the preamble of the Project 25 signal and repeated periodically throughout the transmission. Its purpose is to provide selective access to and maintain access to a receiver. It is also used to block nuisance and other co-channel signals. There are up to 4096 of these NAC codes. For ease of migration in other frequency bands, a NAC code table was developed which shows a mapping of CTCSS and CDCSS signals into corresponding NAC codes. Document TIA/EIA TSB102.BAAC

⁶ Ibid

⁷ 700 MHz Regional Planning Guidebook Appendix A, v 2.0

contains NAC code table and other Project 25 Common Air Interface Reserve Values. Recommendation: Since NPSPAC Interoperability Channels use CTCSS tone 156.7 Hz (5A), use of corresponding NAC code \$61F is recommended for the 700 MHz Interoperability Channel NAC code.

Talkgroup ID

In the Project 25 Common Air Interface definition, the Talkgroup ID on conventional channels is analogous to the use of talkgroups in trunking. In order to ensure that all users can communicate, all units should use the default Talkgroup ID of; \$0001.

Manufacturer's ID

The Project 25 Common Air Interface allows the ability to define manufacturer specific functions. In order to ensure that all users can communicate, all units should not use a specific Manufacturer's ID, but should use the default Manufacturer's ID of; \$00.

Message ID

The Project 25 Common Air Interface allows the ability to define specific message functions. In order to ensure that all users can communicate, all units should use the default Message ID for unencrypted messages of; \$00000000000000000000.

Encryption Algorithm ID and Key ID

The Project 25 Common Air Interface allows the ability to define specific encryption algorithms and encryption keys. In order to ensure that all users can communicate, encryption is prohibited on the Interoperability Calling Channels; all units should use the default Algorithm ID for unencrypted messages of \$80 and default Key ID for unencrypted messages of; \$0000. These same defaults may be used for the other Interoperability channels when encryption is not used. The FCC permits the use of encryption on all Interoperability channels except the two Calling Channels. Regional Planning Committees need to define appropriate Message ID, Encryption Algorithm ID, and Encryption Key ID to be used in the encrypted mode on Interoperability channels.



LAND MOBILE RADIO EXECUTIVE COUNCIL
(A Federal, State and Municipal Partnership)



**CHARTER FOR THE ALASKA-WIDE LAND MOBILE RADIO
EXECUTIVE COUNCIL**

ARTICLE I – INTRODUCTION

The Alaska-Wide Land Mobile Radio (LMR) Executive Council, hereafter referred to as the “LMR Executive Council,” was formed on 19 September 1995. The LMR Executive Council, via this charter, will be dedicated to assessing, assembling and consolidating requirements, drafting and submitting plans, agreements, budget actions, and procurement actions to provide a common interoperable and cost effective LMR service that is compliant with federal, state and local regulatory guidance and is responsive to mission needs of all participating agencies in the State of Alaska.

ARTICLE II – PURPOSE AND DESCRIPTION

A. This Charter provides the foundation policies and responsibilities for the creation of the LMR Executive Council. Further this charter defines the responsibilities related to membership of any federal, state or municipal agency in the council.

B. The LMR Executive Council will define, develop and coordinate a migration plan to provide a cost shared LMR communications service encompassing participating federal, state and municipal users within the State of Alaska. The LMR migration plan shall facilitate approved users within the State of Alaska to access and utilize this service, for the primary purpose of improving communications interoperability between participating agencies involved in mutual aid and emergency/medical response roles, and secondarily to improve their mission support capability for day-to-day operations through a cost burden shared infrastructure.

ARTICLE III – MEMBERSHIP AND ORGANIZATION

A. The LMR Executive Council is open to all Federal, State and Municipal governmental agencies. Four equal co-chairs shall administer the Council. The

Co-Chairs consist of a Federal-DoD, Federal Non-DoD, State of Alaska, and Alaska Municipal League representative. Representatives shall be appointed by their respective agencies, and should be at the executive level empowered to provide binding voice and vote for that agency.

B. Membership in the LMR Executive Council is divided into three categories:

1. The Executive Council. Which will consist of four voting members: Federal – DoD, Federal DOD, State of Alaska, and Alaska Municipal League. The Executive Council shall carry voice and vote and will administer meetings and other proceedings as pertains to the goals of this charter.

2. Associate Members: Which will consist of any number of personnel appointed or otherwise requested to participate in LMR Executive Council proceedings and actions. Associate members have voice but do not have vote.

3. Working Groups; Which will consist of members appointed by the Executive Council to carry out specific tasks and actions as defined by motion and and approving vote of the LMR Executive Council

C. Membership does not bind or obligate that agency to commit to providing any communications service, or participating in the implementation of the agreed migration plan. Members shall be obligated and bound to agreements which are a result of working groups or other sources which have been coordinated through all appropriate technical, legal, legislative, financial and executive levels as required, and signed by those in appropriate authority.

D. This charter and its intended purpose will be endorsed by each participating agency at the applicable level to assure members authority to represent that agency.

E. Participating Federal, State and Alaska Municipal League agencies and member organizations are listed in Annex A.

F. Appointed working groups, members and a brief description of their tasking is contained in Annex B.

G. Approved (on-going or completed) plans, actions and projects are listed in Annex C.

ARTICLE IV – MEMORANDUM OF AGREEMENT & COOPERATIVE AGREEMENTS

A. An MOA, MOU or cooperative agreement shall be executed between each applicable member agency and shall specify the terms and conditions for participation, resource sharing and utilization for the various stages of implementation. The purpose of such documents is to define specific goals, agreements and actions required to execute a common system.

B. No agency/member shall have authority to commit another agency's/members funds or resources in any negotiations, agreements or contracts with out such authority being extended and executed to said agency/member through a legally executed document specifically addressing such actions.

C. A copy of each fully executed MOAs, MOUs, Cooperative Agreements and any other pertinent documentation shall be affixed to, and become part of this Charter.

ARTICLE V – TECHNICAL AND RESOURCE OPERATIONS

A. Each agency/member shall provide as required and requested: system descriptions, technical characteristics, costs (maintenance and operational) and equipment lists for all assets to be utilized in the common infrastructure.

B. Each user/provider shall be responsible for operation and maintenance of his/her resource unless otherwise agreed to under a legally executed MOA, MOU or Cooperative Agreement.

C. The requesting agency shall be responsible for providing all required resources (equipment, facilities, software, et.) to connect to a member provider's resources unless otherwise agreed to under a legally executed MOA, MOU or Cooperative Agreement.

D. The User/Provider's primary operational commitments shall always take precedence over the requirements of a requesting agency to connect to the member provider's resources unless otherwise agreed to under a legally executed MOA, MOU or Cooperative Agreement.

ARTICLE VI - ADDITIONAL CONSIDERATIONS

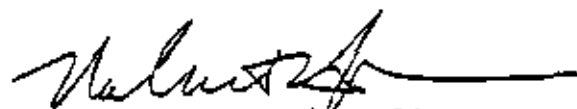
- A. Agency participation is proportional to that agency's access to funding. All proposed services expressed or implied in this Charter or its executed agreements are dependent upon funding available to each participating agency.
- B. Agencies acquiring funding support shall execute their portion of the associated and executed MOAs, MOUs, and Cooperative Agreements in good faith.




LAWRENCE E. BOESE
Lieutenant General, USAF
Commander, Alaskan Command




WALLACE E. MATTESON
Colonel, IM
Chief of Staff, USARAK



ROBERT R. JONES
Colonel, USAF
Vice Commander, USAFAK



JONATHAN S. STOLSON
Lieutenant Colonel, USAF
Commander, DISA-PAC Field Office Alaska



JAKE LESTENKOF
Major General, AKARNG
The Adjutant General

Date 2/22/96 Tom Allen
State Director, Bureau of Land Management

Date 2/22/96 J. D. Davies
Regional Director, Minerals Management Service

Date 3/12/96 Paul R. Anderson
Alaska Field Director, National Park Service

Date 2-22-96 Mike Cullen
Area Director, Bureau of Indian Affairs

Date 2-21-96 Ronna Donovan
Regional Director, Fish and Wildlife Service

Date 2-22-96 R. Smith
Regional Director, Office of Aircraft Services

Date 2-22-96 Wendy Ward to MMS
Chief, Alaska Field Operations Center Bureau of Mines

Date 2/22/96 Paul D. Brooke
Directors Representative for Alaska, Geological Survey

Date 3/14/96 Coordinated with Anchorage office
Chief, Compliance and Information Bureau Federal Communications Commission

MEMORANDUM OF UNDERSTANDING BETWEEN DEPARTMENT OF DEFENSE,
ALASKAN COMMAND, STATE OF ALASKA, FEDERAL EXECUTIVE ASSOCIATION
OF ALASKA, AND ALASKA LEAGUE OF MUNICIPALITIES

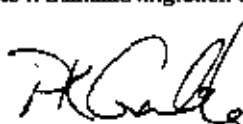
The purpose of this Executive Memorandum of Understanding (MOU) is to acknowledge the Executive Land Mobile Radio (LMR) Committee and their efforts to develop a combined LMR migration plan that is responsive to the needs of the DoD, Federal, State, and local Governments for disaster response/crisis management.

The LMR Executive Committee is chartered with assessing, assembling, and consolidation of communications requirements that support disaster relief and crisis management. The ultimate goal of the committee is to determine the feasibility of designing a single statewide communications system that is totally interoperable between DoD, Federal, State, and local Governments, that is responsive to the needs of each agency in times of emergencies and disasters. It is also a goal of this group to develop a migration strategy that incorporates a significant cost reduction for each agency involved by working as a team.

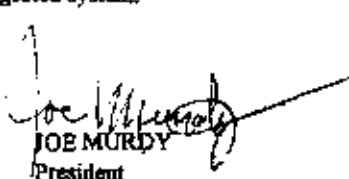
Upon consolidation of these requirements, the LMR Executive Committee will develop a request for information (RFI) to be released to industry for possible solutions for communication interoperability that is responsive to the specified consolidated goals of the LMR Executive Committee requirement.

The undersigned parties concur on the desire for a joint use interoperable communications system and are in agreement that the LMR Executive Committee will represent the undersigned agencies for the purpose of submitting an RFI to industry and for the development of possible migration plan(s) that support the stated goals of the LMR Executive Committee.

This MOU does not obligate any agency for procurement, obligates no public funds, nor does it mandate migration to any suggested system.



PATRICK K. GAMBLE
Lieutenant General, USAF
Commander Alaskan Command



JOE MURDY
President
Alaska League of Municipalities



FRAN ULMER
Lt Governor
State of Alaska



**LAND MOBILE RADIO EXECUTIVE COUNCIL
(A Federal, State and Municipal Partnership)**



MEMORANDUM OF UNDERSTANDING

BETWEEN

**STATE OF ALASKA,
ALASKA MUNICIPAL LEAGUE
DEPARTMENT OF DEFENSE ALASKAN COMMAND,
AND FEDERAL EXECUTIVE ASSOCIATION OF ALASKA**

4 April 2001


The purpose of this Executive Memorandum of Understanding (MOU) is to provide approval for the Land Mobile Radio (LMR) Executive Council to move forward with implementation of a cooperative solution that is responsive to the needs of participating federal, state and municipal agencies for mutual aid, disaster response and crisis management missions as well as day-to-day operations.

The LMR Executive Council is charged with defining, developing and coordinating a migration plan to provide a cost shared LMR communications service encompassing participating federal, state and municipal users within the State of Alaska. The LMR migration plan shall facilitate approved users within the State of Alaska to access and utilize this service, for the primary purpose of improving communications interoperability between participating agencies involved in mutual aid and emergency/medical response roles, and secondarily to improve their mission support capability for day-to-day operations through a cost burden shared infrastructure.

The undersigned parties concur with the decisions, direction and actions taken by the LMR Executive Council and their agents to provide a mutually agreed upon, statewide joint-use interoperable backbone communications infrastructure capability. Further, the undersigned parties are in agreement that the LMR Executive Council will represent within the boundaries of federal, state and municipal law, the undersigned agencies in providing oversight and direction for the implementation and continued development of the mutually agreed upon system design.

This MOU, when signed, represents the cooperation and commitment of the undersigned agencies to participate and engage with the LMR Executive Council to move forward within the constraints of law, funding and the will of each agency to achieve a mutually burden shared


backbone communication infrastructure that is responsive to the needs of the participating federal, state and municipal agencies for mutual aid, disaster response and crisis management missions as well as day-to-day operations.



FRAN ULMER
Lt. Governor
State of Alaska



NORTON W. SCHWARTZ
Lieutenant General, USAF
Commander Alaskan Command



WILLIE THOMAS
President
Alaska Municipal League



JEFFREY B. STASER
President
Federal Executive Association

Appendix F

Channel Naming Report

National Public Safety Telecommunications Council's

Channel Naming Report



NPSTC

NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL



National Public Safety Telecommunications Council

NCC / NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels

Revised June 2007



Member Organizations

American Association of State
Highway and Transportation Officials

American Radio Relay League

American Red Cross

Association of Fish and Wildlife
Agencies

Association of Public Safety
Communications Officials

Forestry Conservation
Communications Association

International Association of Chiefs of
Police

International Association of
Emergency Managers

International Association of Fire Chiefs

International Municipal Signal
Association

National Association of State Chief
Information Officers

National Association of State
Emergency Medical Services
Directors

National Association of State
Foresters

National Association of State
Telecommunications Directors

Liaison Organizations

Federal Communications Commission

National Telecommunications and Information
Administration

Telecommunications Industry Association

US Department of Agriculture

US Department of Justice

NIJ CommTech Program

US Department of Homeland Security

FEMA

Office of Emergency Communications

Office of Interoperability and Compatibility

SAFECOM Program

US Department of Interior

This document outlines the *NCC / NPSTC Standard Channel Nomenclature for Public Safety Interoperability Channels* as revised in June of 2007. The requirement for a common naming protocol for public safety's interoperability frequencies was identified in early 2000 by the Public Safety National Coordination Committee (NCC), a Federal Advisory Committee chartered by the Federal Communications Commission (FCC) that operated from 1999 to 2003, and provided recommendations to the Commission on operational and technical parameters for use of the 700 MHz public safety band.

In the final report of the NCC on July 25, 2003, Chair Kathleen Wallmann wrote:

Standard Channel Nomenclature

The NCC respectfully renews its earlier recommendation that the Commission's Rules contain mandatory channel nomenclature for all interoperability channels on all public safety bands. The NCC views such standard nomenclature as essential to the interoperability process, such that all responders to an incident will know the appropriate channel to which to tune their radios and will know – from the channel designator – the band and primary use of the channel specified. Absent such standard nomenclature, a Babel-like confusion could result if, for example, a given jurisdiction were to designate 458.2125 MHz as a calling channel and associate it with "Channel 5" on its radios; and another jurisdiction were to designate the same frequency as a tactical channel and assign it to "Channel 9" on its radios. With adoption of a standard channel nomenclature in the Rules, such confusion – and the attendant potential for delayed response to an incident – would be avoided...

While the FCC declined at that time to mandate such a standard channel nomenclature, the NCC protocol has received wide acceptance within the public safety communications community, as communications interoperability for public safety's first responders continues to be a major issue.

During 2006 NPSTC was approached by a number of public safety user organizations with a request that NPSTC review and update the *Standard Channel Nomenclature* to reflect 'real world' user operational requirements. A Task Group was convened and a public forum to address the issue was held on February 5, 2007, in Orlando, Florida. Six proponent organizations submitted recommendations for modification of the *Standard Channel Nomenclature*. These were heard and discussed at the forum, and a consensus format was adopted. The proposed revision (as a *Report of Committee*) was placed on public notice, and after a 90-day comment period, adopted as this revised protocol.

NTIA Interoperability Channels

During the forum, the issue of names for the 40 National Telecommunications and Information Administration (NTIA) VHF and UHF Interoperability Channels was discussed. The NTIA has designated these channels with a set of names in a format that does not prevent duplication of identifiers or promote uniqueness.¹ At least one federal agency has developed guidance for these channels with a different set of channel names. The representatives of the various federal agencies present requested that the Task Group take the issue of the NTIA channels off line and work with them to find a solution that works for all parties. This effort is ongoing, and, once completed, NPSTC will update this protocol.

700 MHz Spectrum

During NPSTC's Comment Period for the Report of Committee, the FCC released Docket 07-72, a *Report and Order and Further Notice of Proposed Rulemaking* addressing seven different ongoing dockets relating to the Lower and Upper 700 MHz Bands (including the public safety segments in TV Channels 63, 64, 68, and 69). Among the numerous issues in this docket, the Commission announced the intent to realign the public safety allocations to combine the two separate segments of paired narrowband channels² into the Channel 64/69 pair, and combine the non-narrowband voice use into Channel 63/68, and reallocate the use to broadband data which could reduce or eliminate the designators for wideband data interoperability channels. The original FCC allocations for the narrowband interoperability spectrum included duplicate sets of channels (e.g., Call, Data I/O, Secondary Trunking, etc.) that are reflected in the current protocol. NPSTC has elected to refrain from making any adjustments to the protocol until such time as these issues are resolved by the FCC.

Standardized Naming Format

Each FCC-designated Interoperability Channel in the Public Safety Radio Services (47CFR Part 90) will have a unique name developed according to a standardized format. Tables 1 and 2 show the FCC-designated Interoperability Channels and the related Channel Name. This format consists of a maximum of eight characters,³ as follows:

Btype##M

This format is broken down as follows:

B **Spectrum Band**

The Spectrum Band designator is a unique single alpha or numeric character to designate the public safety spectrum segment the channel is found within:

¹ See FCC DA-01-1621A or the NTIA "Red Book" 2003 edition at Chapter 4.3.16 for the existing names and limitations.

² Currently each 6 MHz TV channel is allocated as 3 MHz of narrowband voice and 3 MHz of reserve or wideband data use. Channel 63 is paired with Channel 68, and Channel 64 is paired with Channel 69.

³ An eight-character limit was adopted by the NCC after discussions with major equipment manufacturers determined this was the minimum display being delivered in 2003 for radios ordered with a display option. This eight-character size was again confirmed with several manufacturers in early 2007.

- L** VHF Low Band (30 – 50 MHz)
- V** VHF High Band (150.8 – 162.0 MHz)
- U** UHF Band (450 – 470 MHz)
- 7** 700 MHz Public Safety Band. As the spectrum for voice communications use in this band is currently further divided into two individual blocks, for interoperability channel numbering purposes these blocks are identified as follows:
 - “A” Block: Television Channels 63 and 68
 - “B” Block: Television Channels 64 and 69
- 8** 800 MHz NPSPAC band **after the rebanding process** (806 – 809 / 851 – 854 MHz)

type Channel Use Designator

The Channel Use Designator is an alphanumeric three- or four-place tag to signify the primary purpose of operations on the channel. In some cases, the Channel Use has been specified in FCC Rules or related Orders.

- CALL** Channel is dedicated nationwide for the express purpose of Interoperability calling only.
- DATA** Channel is reserved nationwide for the express purpose of Data transmission only
- FIRE** Primarily used for interagency incident communications by Fire licensees
- GTAC** Primarily used for interagency incident communications between Public Safety eligible entities and eligible non-governmental organizations
- LAW** Primarily used for interagency incident communications by Police licensees
- MED** Primarily used for interagency incident communications by Emergency Medical Service licensees
- MOB** Primarily used for on-scene interagency incident communications by any Public Safety eligible, using vehicular repeaters (FCC Station Class MO3)
- TAC** Primarily used for interagency communications by any Public Safety eligible

Unique Channel Identifier

The Unique Channel Identifier is a numeric one- or two-place tag to uniquely identify the specific channel. Channel Identifiers are grouped by band segment as follows:

- 1-9 VHF Low Band (30-50 MHz) [No leading zero used]
- 10-39 VHF High band (150.8 – 162 MHz)
- 40-49 UHF band (450 – 470 MHz)
- 50-69 700 MHz “A” block (TV 63/68)
- 70-89 700 MHz “B” block (TV 64/69)
- 90-99 800 MHz “NPSPAC” band (806-809/851-854 MHz) [Post-rebanding]

Notes:

- Starting in VHF High Band, Channel Identifiers are grouped by Channel Use type, with Channel Identifiers ending in “0” reserved for Interoperability Calling use.
- Channels Identifiers specified for Emergency Medical Services (MED) in this document are numbered to avoid conflict with the FCC’s UHF medical channel naming methodology specified in 47CFR90.20(d)(65) and 47CFR90.20(d)(66)(i).
- Channel Identifiers not specified in Tables 1 and 2 are reserved for future use.

M Modifier

The Modifier character is a single alphanumeric tag to identify a modification to the default operation type on the channel / channel pair:

- D Direct or “Talk around” use [Simplex operations on the output channel of a pair normally designated for half-duplex or mobile relay operations.

Standardized Tone Squelch or Network Access Codes

The use of a common Continuous Tone Controlled Squelch System (CTCSS) tone of 156.7 Hz for transmit and receive on national Interoperability Channels was originally specified in the NPSPAC proceedings (Docket 87-112). In many areas, the 800 MHz Planning Regions allowed the use of an additional (secondary) access tone for in-cabinet repeat operations, as long as the 156.7 Hz tone was monitored by a live dispatcher or always repeated upon receipt. 156.7 Hz is always transmitted by repeaters.

In the development process of the *Standard Channel Nomenclature for the Public Safety Interoperability Channels*, the NCC Interoperability Committee’s Working Group recommended that 156.7 Hz CTCSS transmit and receive be used for all analog voice operations on all interoperability channels in all bands. For Project-25 (P-25) voice operations, the NCC Working Group initially recommended the 156.7 Hz equivalent Network Access Code (NAC) of \$61F. This recommendation was changed in 2001 to use the default (“carrier squelch equivalent”) NAC of \$293.

ANALOG OPERATIONS:

The use of **CTCSS Tone 156.7 Hz** has been adopted for all analog operations on Interoperability Channels:

1. All (fixed and subscriber) analog transmitters **will** encode 156.7 Hz.
2. Subscriber receivers should be set for carrier squelch operations unless conditions in the area require the use of tone protection to mitigate adjacent channel interference, or interference from intermodulation products. In those cases, receivers will decode 156.7 Hz.
3. Subject to the approval of applicable Statewide Communications Interoperability Plans and/or FCC-approved regional plans, mobile relay stations that are part of a local, regional, or statewide interoperability network may be equipped with a second receive CTCSS tone to provide local (“in cabinet”) relay operation, provided:
 - a. The relay transmitter continues to transmit the common CTCSS tone of 156.7 Hz so that all users within range of the station are aware the station is in use;
 - b. The relay will accept the common CTCSS tone of 156.7 Hz and present the audio accompanying the 156.7 Hz-encoded transmission for automatic in-cabinet repeat or to a live operator at the appropriate controlling dispatch facility; and
 - c. The operational configuration of the Mobile Relay Station is published in applicable interoperability resource tracking documents (such as the appropriate Tactical Interoperability Communications Plan, Statewide Communications Interoperability Plan, and/or FCC-approved Regional Plan) and databases (CAPRAD, CASM, and NIIX⁴).

⁴ The Computer Assisted Pre-Coordination Resource and Database System (CAPRAD) is a regional planning tool designed to assist 700 MHz Regional Planning Committees with development of their plans. The Communications Asset Survey and Mapping Tool (CASM) was developed by the Interoperable Communications Technical Assistance Program within the U.S. Department of Homeland Security to assist urban areas, designated metropolitan areas and states with inventory and mapping/use of interoperability resources. The National Interoperability Information eXchange (NIIX) is a library of statewide and tactical interoperability planning documents under development by NPSTC.

DIGITAL OPERATIONS

The use of Network Access Code (NAC) \$293 has been adopted for all digital operations on Interoperability Channels:

1. Subject to the approval of applicable Statewide Communications Interoperability Plans and/or FCC-approved Regional Plans, Mobile Relay stations that are part of a Local, Regional, or Statewide interoperability network may be equipped with a second receive NAC to provide local (“in cabinet”) relay operation, provided:
 - a. The relay transmitter continues to transmit the Common NAC of \$293 so that all users within range of the station are aware the station is in use;
 - b. The relay will accept the Common NAC of \$293 and present the audio accompanying the \$293-encoded transmission for automatic in-cabinet repeat or to a live operator at the appropriate controlling dispatch facility; and
 - c. The operational configuration of the Mobile Relay Station is published in applicable interoperability resource tracking documents (such as the appropriate Tactical Interoperability Communications Plan, Statewide Communications Interoperability Plan, and/or FCC-approved Regional Plan) and databases (CAPRAD, CASM, and NIIX).

Subscriber Radio Programming

INTEROPERABILITY CHANNEL CONFIGURATIONS

It is strongly recommended that interoperability channels listed with both a mobile relay and a direct configuration have both configurations of each channel programmed in each subscriber radio, regardless of the available infrastructure in the user’s home area.

COSTS AND TIMELINES FOR IMPLEMENTATION OF THE PROTOCOL

NPSTC is very cognizant of costs associated with implementation of the new channel names including reprogramming, updating/reprinting of training materials, and the delivery of updated training. There are three opportunities for agencies to implement this change for radios operating above 150 MHz at minimal added cost for radio programming:

- 1) All public safety radios in the 800 MHz band will have to be replaced and/or reprogrammed due to rebanding, to occur during the FCC-designated rebanding wave for that geographic region.
- 2) All public safety radios in the 700 MHz band should be programmed with the new names as new radios are fielded, or as they are rebanded for 700/800 MHz dual band radios. This is new public safety spectrum and few systems are yet operational.
- 3) All radios operating between 150 and 512 MHz will have to be replaced and/or reprogrammed prior to January 1, 2013, to comply with the FCC’s narrowbanding rules.

With regard to costs, NPSTC, with unanimous support from the SAFECOM Executive Committee, has recommended to the U.S. Department of Homeland Security’s SAFECOM Program that its Federal Interoperability Grant Guidance be modified to specifically provide that, for interoperability-related grants, the cost of reprogramming communications infrastructure and subscriber equipment, and the cost of generating or revising first responder training curriculum and materials to implement the *Standard Channel Nomenclature for the Public Safety Interoperability Channels* be specifically designated as allowable grant expenses to facilitate interoperability.

Table 1: Sorted by Band in Numeric Order

FREQ / FCC CHANNEL (SUBSCRIBER LOAD)		BASE, MOBILE, OR FIXED (CONTROL)	ELIGIBILITY / PRIMARY USE	COMMON NAME	LIMITATIONS (47 CFR Part 90)
RECEIVE	TRANSMIT				
MHz	MHz	FCC 30 MHz Public Safety Band			
39.4600	SIMPLEX	Base-Mobile	Law Enforcement	LLAW1	90.20(c)(3) [15]
39.4800	SIMPLEX	Base-Mobile	Fire Proposed	LFIRE2	Prop. 90.20(c)(3) [19]
45.8600	SIMPLEX	Base-Mobile	Law Enforcement	LLAW3	90.20(c)(3) [15]
45.8800	SIMPLEX	Base-Mobile	Fire	LFIRE4	90.20(c)(3) [19]
MHz	MHz	FCC 150 - 162 MHz Public Safety Band			
155.7525	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VCALL10	90.20(c)(3) [80,83]
151.1375	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VTAC11	90.20(c)(3) [80]
154.4525	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VTAC12	90.20(c)(3) [80]
158.7375	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VTAC13	90.20(c)(3) [80]
159.4725	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VTAC14	90.20(c)(3) [80]
161.8500	157.2500	Fixed-Mobile	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC17	90.20(g)
	SIMPLEX	Base-Mobile		VTAC17D	
161.8250	157.2250	Fixed-Mobile	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC18	90.20(g)
	SIMPLEX	Base-Mobile		VTAC18D	
161.8750	157.2750	Fixed-Mobile	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC19	90.20(g)
	SIMPLEX	Base-Mobile		VTAC19D	
154.2800	SIMPLEX	Base-Mobile	Fire	VFIRE21	90.20(c)(3) [19]
154.2650	SIMPLEX	Base-Mobile	Fire	VFIRE22	90.20(c)(3) [19]
154.2950	SIMPLEX	Base-Mobile	Fire	VFIRE23	90.20(c)(3) [19]
154.2725	SIMPLEX	Base-Mobile	Fire	VFIRE24	90.20(c)(3) [19]
154.2875	SIMPLEX	Base-Mobile	Fire	VFIRE25	90.20(c)(3) [19]
154.3025	SIMPLEX	Base-Mobile	Fire	VFIRE26	90.20(c)(3) [19]
155.3400	SIMPLEX	Base-Mobile	EMS	VMED28	90.20(c)(3) [40]
155.3475	SIMPLEX	Base-Mobile	EMS	VMED29	90.20(c)(3) [40]
155.4750	SIMPLEX	Base-Mobile	Law Enforcement	VLAW31	90.20(c)(3) [41]
155.4825	SIMPLEX	Base-Mobile	Law Enforcement	VLAW32	90.20(c)(3) [41]
MHz	MHz	NTIA VHF Law Enforcement Channels			
Use of the NTIA Interoperability Channels by FCC licensees is subject to the conditions specified in FCC Public Notice DA 01-1621. There are discrepancies between DA 01-1621 and the current NTIA "Red Book." NPSTC is working with our Federal partners to clarify the discrepancies and develop a revised name plan for the NTIA channels.					
MHz	MHz	NTIA VHF Incident Response Channels			
Use of the NTIA Interoperability Channels by FCC licensees is subject to the conditions specified in FCC Public Notice DA 01-1621. There are discrepancies between DA 01-1621 and the current NTIA "Red Book." NPSTC is working with our Federal partners to clarify the discrepancies and develop a revised name plan for the NTIA channels.					
MHz	MHz	NTIA UHF Law Enforcement Channels			
Use of the NTIA Interoperability Channels by FCC licensees is subject to the conditions specified in FCC Public Notice DA 01-1621. There are discrepancies between DA 01-1621 and the current NTIA "Red Book." NPSTC is working with our Federal partners to clarify the discrepancies and develop a revised name plan for the NTIA channels.					
MHz	MHz	NTIA UHF Incident Response Channels			
Use of the NTIA Interoperability Channels by FCC licensees is subject to the conditions specified in FCC Public Notice DA 01-1621. There are discrepancies between DA 01-1621 and the current NTIA "Red Book." NPSTC is working with our Federal partners to clarify the discrepancies and develop a revised name plan for the NTIA channels.					
MHz	MHz	FCC 450 - 470 MHz Public Safety Band			
453.2125	458.2125	Fixed-Mobile	Any Public Safety Eligible	UCALL40	90.20(c)(3) [80,83]
	SIMPLEX	Base-Mobile		UCALL40D	
453.4625	458.4625	Fixed-Mobile	Any Public Safety Eligible	UTAC41	90.20(c)(3) [80]
	SIMPLEX	Base-Mobile		UTAC41D	
453.7125	458.7125	Fixed-Mobile	Any Public Safety Eligible	UTAC42	90.20(c)(3) [80]
	SIMPLEX	Base-Mobile		UTAC42D	
453.8625	458.8625	Fixed-Mobile	Any Public Safety Eligible	UTAC43	90.20(c)(3) [80]
	SIMPLEX	Base-Mobile		UTAC43D	
CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 63 + 68)			
39-40	999-1000	Fixed-Mobile	Calling Channel	7CALL50	90.531(a)(1)(ii)
	SIMPLEX	Base-Mobile		7CALL50D	
23-24	983-984	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC51	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC51D	
103-104	1063-1064	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC52	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC52D	
183-184	1143-1144	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC53	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC53D	
263-264	1223-1224	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC54	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC54D	

Table 1: Sorted by Band in Numeric Order

CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 63 + 68) (Cont'd)			
119-120	1079-1080	Fixed-Mobile	General Public Safety Service	7TAC55	
	SIMPLEX	Base-Mobile		7TAC55D	
199-200	1159-1160	Fixed-Mobile	General Public Safety Service	7TAC56	
	SIMPLEX	Base-Mobile		7TAC56D	
319-320	1279-1280	Fixed-Mobile	Other Public Service	7GTAC57	
	SIMPLEX	Base-Mobile		7GTAC57D	
303-304	1263-1264	Fixed-Mobile	Mobile Repeater (M03 Use Primary)	7MOB59	
	SIMPLEX	Base-Mobile		7MOB59D	
223-224	1183-1184	Fixed-Mobile	Law Enforcement	7LAW61	
	SIMPLEX	Base-Mobile		7LAW61D	
239-240	1199-1200	Fixed-Mobile	Law Enforcement	7LAW62	
	SIMPLEX	Base-Mobile		7LAW62D	
143-144	1103-1104	Fixed-Mobile	Fire	7FIRE63	
	SIMPLEX	Base-Mobile		7FIRE63D	
159-160	1119-1120	Fixed-Mobile	Fire	7FIRE64	
	SIMPLEX	Base-Mobile		7FIRE64D	
63-64	1023-1024	Fixed-Mobile	EMS	7MED65	
	SIMPLEX	Base-Mobile		7MED65D	
79-80	1039-1040	Fixed-Mobile	EMS	7MED66	
	SIMPLEX	Base-Mobile		7MED66D	
279-280	1239-1240	Fixed-Mobile	Mobile Data	7DATA69	90.531(a)(1)(i)
	SIMPLEX	Base-Mobile		7DATA69D	
CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 64 + 69)			
681-682	1641-1642	Fixed-Mobile	Calling Channel	7CALL70	90.531(a)(1)(ii)
	SIMPLEX	Base-Mobile		7CALL70D	
657-658	1617-1618	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC71	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC71D	
737-738	1697-1698	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC72	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC72D	
817-818	1777-1778	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC73	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC73D	
897-898	1857-1858	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC74	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC74D	
761-762	1721-1722	Fixed-Mobile	General Public Safety Service	7TAC75	
	SIMPLEX	Base-Mobile		7TAC75D	
841-842	1801-1802	Fixed-Mobile	General Public Safety Service	7TAC76	
	SIMPLEX	Base-Mobile		7TAC76D	
937-938	1897-1898	Fixed-Mobile	Other Public Service	7GTAC77	
	SIMPLEX	Base-Mobile		7GTAC77D	
881-882	1841-1842	Fixed-Mobile	Mobile Repeater (M03 Use Primary)	7MOB79	
	SIMPLEX	Base-Mobile		7MOB79D	
801-802	1761-1762	Fixed-Mobile	Law Enforcement	7LAW81	
	SIMPLEX	Base-Mobile		7LAW81D	
857-858	1817-1818	Fixed-Mobile	Law Enforcement	7LAW82	
	SIMPLEX	Base-Mobile		7LAW82D	
721-722	1681-1682	Fixed-Mobile	Fire	7FIRE83	
	SIMPLEX	Base-Mobile		7FIRE83D	
777-778	1737-1738	Fixed-Mobile	Fire	7FIRE84	
	SIMPLEX	Base-Mobile		7FIRE84D	
641-642	1601-1602	Fixed-Mobile	EMS	7MED86	
	SIMPLEX	Base-Mobile		7MED86D	
697-698	1657-1658	Fixed-Mobile	EMS	7MED87	
	SIMPLEX	Base-Mobile		7MED87D	
921-922	1881-1882	Fixed-Mobile	Mobile Data	7DATA89	90.531(a)(1)(i)
	SIMPLEX	Base-Mobile		7DATA89D	
MHz	MHz	FCC 800 MHz NPSPAC Band (Post-Rebanding)			
851.0125	806.0125	Fixed-Mobile	Any Public Safety Eligible	8CALL90	90.16
	SIMPLEX	Base-Mobile		8CALL90D	
851.5125	806.5125	Fixed-Mobile	Any Public Safety Eligible	8TAC91	90.16
	SIMPLEX	Base-Mobile		8TAC91D	
852.0125	807.0125	Fixed-Mobile	Any Public Safety Eligible	8TAC92	90.16
	SIMPLEX	Base-Mobile		8TAC92D	
852.5125	807.5125	Fixed-Mobile	Any Public Safety Eligible	8TAC93	90.16
	SIMPLEX	Base-Mobile		8TAC93D	
853.0125	808.0125	Fixed-Mobile	Any Public Safety Eligible	8TAC94	90.16
	SIMPLEX	Base-Mobile		8TAC94D	

Table 2: Sorted by Band in Frequency or Channel Order

FREQ / FCC CHANNEL (SUBSCRIBER LOAD)		BASE,MOBILE, OR FIXED (CONTROL)	ELIGIBILITY / PRIMARY USE	COMMON NAME	LIMITATIONS (47 CFR Part 90)
RECEIVE	TRANSMIT				
MHz	MHz	FCC 30 MHz Public Safety Band			
39.4600	SIMPLEX	Base-Mobile	Law Enforcement	LLAW1	90.20(c)(3) [15]
39.4800	SIMPLEX	Base-Mobile	Fire Proposed	LFIRE2	Prop. 90.20(c)(3) [19]
45.8600	SIMPLEX	Base-Mobile	Law Enforcement	LLAW3	90.20(c)(3) [15]
45.8800	SIMPLEX	Base-Mobile	Fire	LFIRE4	90.20(c)(3) [19]
MHz	MHz	FCC 150 - 162 MHz Public Safety Band			
151.1375	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VTAC11	90.20(c)(3) [80]
154.2650	SIMPLEX	Base-Mobile	Fire	VFIRE22	90.20(c)(3) [19]
154.2725	SIMPLEX	Base-Mobile	Fire	VFIRE24	90.20(c)(3) [19]
154.2800	SIMPLEX	Base-Mobile	Fire	VFIRE21	90.20(c)(3) [19]
154.2875	SIMPLEX	Base-Mobile	Fire	VFIRE25	90.20(c)(3) [19]
154.2950	SIMPLEX	Base-Mobile	Fire	VFIRE23	90.20(c)(3) [19]
154.3025	SIMPLEX	Base-Mobile	Fire	VFIRE26	90.20(c)(3) [19]
154.4525	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VTAC12	90.20(c)(3) [80]
155.3400	SIMPLEX	Base-Mobile	EMS	VMED28	90.20(c)(3) [40]
155.3475	SIMPLEX	Base-Mobile	EMS	VMED29	90.20(c)(3) [40]
155.4750	SIMPLEX	Base-Mobile	Law Enforcement	VLAW31	90.20(c)(3) [41]
155.4825	SIMPLEX	Base-Mobile	Law Enforcement	VLAW32	90.20(c)(3) [41]
155.7525	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VCALL10	90.20(c)(3) [80,83]
158.7375	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VTAC13	90.20(c)(3) [80]
159.4725	SIMPLEX	Base-Mobile	Any Public Safety Eligible	VTAC14	90.20(c)(3) [80]
161.8500	157.2500	Fixed-Mobile	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC17	90.20(g)
	SIMPLEX	Base-Mobile		VTAC17D	
161.8250	157.2250	Fixed-Mobile	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC18	90.20(g)
	SIMPLEX	Base-Mobile		VTAC18D	
161.8750	157.2750	Fixed-Mobile	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC19	90.20(g)
	SIMPLEX	Base-Mobile		VTAC19D	
MHz	MHz	NTIA VHF Law Enforcement Channels			
MHz	MHz	NTIA VHF Incident Response Channels			
Use of the NTIA Interoperability Channels by FCC licensees is subject to the conditions specified in FCC Public Notice DA 01-1621. There are discrepancies between DA 01-1621 and the current NTIA "Red Book." NPSTC is working with our Federal partners to clarify the discrepancies and develop a revised name plan for the NTIA channels.					
MHz	MHz	NTIA UHF Law Enforcement Channels			
MHz	MHz	NTIA UHF Incident Response Channels			
Use of the NTIA Interoperability Channels by FCC licensees is subject to the conditions specified in FCC Public Notice DA 01-1621. There are discrepancies between DA 01-1621 and the current NTIA "Red Book." NPSTC is working with our Federal partners to clarify the discrepancies and develop a revised name plan for the NTIA channels.					
MHz	MHz	FCC 450 - 470 MHz Public Safety Band			
453.2125	458.2125	Fixed-Mobile	Any Public Safety Eligible	UCALL40	90.20(c)(3) [80,83]
	SIMPLEX	Base-Mobile		UCALL40D	
453.4625	458.4625	Fixed-Mobile	Any Public Safety Eligible	UTAC41	90.20(c)(3) [80]
	SIMPLEX	Base-Mobile		UTAC41D	
453.7125	458.7125	Fixed-Mobile	Any Public Safety Eligible	UTAC42	90.20(c)(3) [80]
	SIMPLEX	Base-Mobile		UTAC42D	
453.8625	458.8625	Fixed-Mobile	Any Public Safety Eligible	UTAC43	90.20(c)(3) [80]
	SIMPLEX	Base-Mobile		UTAC43D	
CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 63 + 68)			
23-24	983-984	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC51	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC51D	
39-40	999-1000	Fixed-Mobile	Calling Channel	7CALL50	90.531(a)(1)(ii)
	SIMPLEX	Base-Mobile		7CALL50D	
63-64	1023-1024	Fixed-Mobile	EMS	7MED65	
	SIMPLEX	Base-Mobile		7MED65D	
79-80	1039-1040	Fixed-Mobile	EMS	7MED66	
	SIMPLEX	Base-Mobile		7MED66D	
103-104	1063-1064	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC52	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC52D	
119-120	1079-1080	Fixed-Mobile	General Public Safety Service	7TAC55	
	SIMPLEX	Base-Mobile		7TAC55D	
143-144	1103-1104	Fixed-Mobile	Fire	7FIRE63	
	SIMPLEX	Base-Mobile		7FIRE63D	

Table 2: Sorted by Band in Frequency or Channel Order

CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 63 + 68) (Cont'd)			
159-160	1119-1120	Fixed-Mobile	Fire	7FIRE64	
	SIMPLEX	Base-Mobile		7FIRE64D	
183-184	1143-1144	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC53	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC53D	
199-200	1159-1160	Fixed-Mobile	General Public Safety Service	7TAC56	
	SIMPLEX	Base-Mobile		7TAC56D	
223-224	1183-1184	Fixed-Mobile	Law Enforcement	7LAW61	
	SIMPLEX	Base-Mobile		7LAW61D	
239-240	1199-1200	Fixed-Mobile	Law Enforcement	7LAW62	
	SIMPLEX	Base-Mobile		7LAW62D	
263-264	1223-1224	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC54	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC54D	
279-280	1239-1240	Fixed-Mobile	Mobile Data	7DATA69	90.531(a)(1)(i)
	SIMPLEX	Base-Mobile		7DATA69D	
303-304	1263-1264	Fixed-Mobile	Mobile Repeater	7MOB59	
	SIMPLEX	Base-Mobile		7MOB59D	
319-320	1279-1280	Fixed-Mobile	Other Public Service	7GTAC57	
	SIMPLEX	Base-Mobile		7GTAC57D	
CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 64 + 69)			
641-642	1601-1602	Fixed-Mobile	EMS	7MED86	
	SIMPLEX	Base-Mobile		7MED86D	
657-658	1617-1618	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC71	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC71D	
681-682	1641-1642	Fixed-Mobile	Calling Channel	7CALL70	90.531(a)(1)(ii)
	SIMPLEX	Base-Mobile		7CALL70D	
697-698	1657-1658	Fixed-Mobile	EMS	7MED87	
	SIMPLEX	Base-Mobile		7MED87D	
721-722	1681-1682	Fixed-Mobile	Fire	7FIRE83	
	SIMPLEX	Base-Mobile		7FIRE83D	
737-738	1697-1698	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC72	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC72D	
761-762	1721-1722	Fixed-Mobile	General Public Safety Service	7TAC75	
	SIMPLEX	Base-Mobile		7TAC75D	
777-778	1737-1738	Fixed-Mobile	Fire	7FIRE84	
	SIMPLEX	Base-Mobile		7FIRE84D	
801-802	1761-1762	Fixed-Mobile	Law Enforcement	7LAW81	
	SIMPLEX	Base-Mobile		7LAW81D	
817-818	1777-1778	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC73	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC73D	
841-842	1801-1802	Fixed-Mobile	General Public Safety Service	7TAC76	
	SIMPLEX	Base-Mobile		7TAC76D	
857-858	1817-1818	Fixed-Mobile	Law Enforcement	7LAW82	
	SIMPLEX	Base-Mobile		7LAW82D	
881-882	1841-1842	Fixed-Mobile	Mobile Repeater	7MOB79	
	SIMPLEX	Base-Mobile		7MOB79D	
897-898	1857-1858	Fixed-Mobile	General Public Safety Service (secondary trunked)	7TAC74	90.531(a)(1)(iii)
	SIMPLEX	Base-Mobile		7TAC74D	
921-922	1881-1882	Fixed-Mobile	Mobile Data	7DATA89	90.531(a)(1)(i)
	SIMPLEX	Base-Mobile		7DATA89D	
937-938	1897-1898	Fixed-Mobile	Other Public Service	7GTAC77	
	SIMPLEX	Base-Mobile		7GTAC77D	
MHz	MHz	FCC 800 MHz NPSPAC Band (Post-Rebanding)			
851.0125	806.0125	Fixed-Mobile	Any Public Safety Eligible	8CALL90	90.16
	SIMPLEX	Base-Mobile		8CALL90D	
851.5125	806.5125	Fixed-Mobile	Any Public Safety Eligible	8TAC91	90.16
	SIMPLEX	Base-Mobile		8TAC91D	
852.0125	807.0125	Fixed-Mobile	Any Public Safety Eligible	8TAC92	90.16
	SIMPLEX	Base-Mobile		8TAC92D	
852.5125	807.5125	Fixed-Mobile	Any Public Safety Eligible	8TAC93	90.16
	SIMPLEX	Base-Mobile		8TAC93D	
853.0125	808.0125	Fixed-Mobile	Any Public Safety Eligible	8TAC94	90.16
	SIMPLEX	Base-Mobile		8TAC94D	

Limitations

Tables 1 and 2 refer to various limitations. These limitations refer to sections of 47 CFR Part 90, the FCC's Rules and Regulations for Public Safety use of the radio spectrum. These limitations are:

- 90.16** 90.16 Public Safety National Plan.
The Commission has established a National Plan which specifies special policies and procedures governing the Public Safety Pool (formally Public Safety Radio Services and the Special Emergency Radio Service). The National Plan is contained in the Report and Order in General Docket No. 87-112. The principal spectrum resource for the National Plan is the 806-809 MHz and the 851-854 MHz bands at locations farther than 110 km (68.4 miles) from the U.S./Mexico border and 140 km (87 miles) from the U.S./Canadian border (border regions). In the border regions, the principal spectrum for the National Plan may be different. The National Plan establishes planning regions covering all parts of the United States, Puerto Rico, and the U.S. Virgin Islands. No assignments will be made in the spectrum designated for the National Plan until a regional plan for the area has been accepted by the Commission.
- 90.20(c)(3) [15]** (15) This frequency is reserved for assignment to stations for intersystem operations only: Provided, however, that licensees holding a valid authorization to use this frequency for local base or mobile operations as of June 1, 1956, may continue to be authorized for such use.
- 90.20(c)(3) [16]** (16) This frequency is reserved primarily for assignment to state police licensees. Assignments to other police licensees will be made only where the frequency is required for coordinated operation with the state police system to which the frequency is assigned. Any request for such assignment must be supported by a statement from the state police system concerned indicating that the assignment is necessary for coordination of police activities.
- 90.20(c)(3) [19]** (19) This frequency is reserved for assignment to stations in this service for intersystem operations only and these operations must be primarily base-mobile communications.
- 90.20(c)(3) [40]** (40) This frequency may be designated by common consent as an intersystem mutual assistance frequency under an area-wide medical communications plan.
- 90.20(c)(3) [41]** (41) This frequency is available nationwide for use in police emergency communications networks operated under statewide law enforcement emergency communications plans.
- 90.20(c)(3) [80]** (80) After December 7, 2000, this frequency is available primarily for public safety interoperability-only communications. Stations licensed prior to December 7, 2000, may continue to use this frequency on a co-primary basis until January 1, 2005. After January 1, 2005, all operations will be secondary to co-channel interoperability communications.
- 90.20(c)(3) [83]** (83) This interoperability frequency is dedicated for the express purpose of nationwide interoperability calling.
- 90.20(g)** (g) Former public correspondence working channels in the maritime VHF (156–162 MHz) band allocated for public safety use in 33 inland Economic Areas. ... (3) The channels pairs set forth in Table B paragraph (g)(2)(ii) of this section are designated primarily for the purpose of interoperability communication.
- 90.531(a)(1)(i)** (i) *Narrowband data Interoperability channels.* The following channel pairs are reserved nationwide for the express purpose of data transmission only ...
- 90.531(a)(1)(ii)** (ii) *Narrowband calling Interoperability channels.* The following channel pairs are dedicated nationwide for the express purpose of *Interoperability* calling only ... They may not be used primarily for routine, day-to-day communications. Encryption is prohibited on the designated calling channels.
- 90.531(a)(1)(iii)** (iii) *Narrowband trunking Interoperability channels.* The following Interoperability channel pairs may be combined with the appropriate adjacent secondary trunking channel pairs and used in trunked mode on a secondary basis to conventional Interoperability operations

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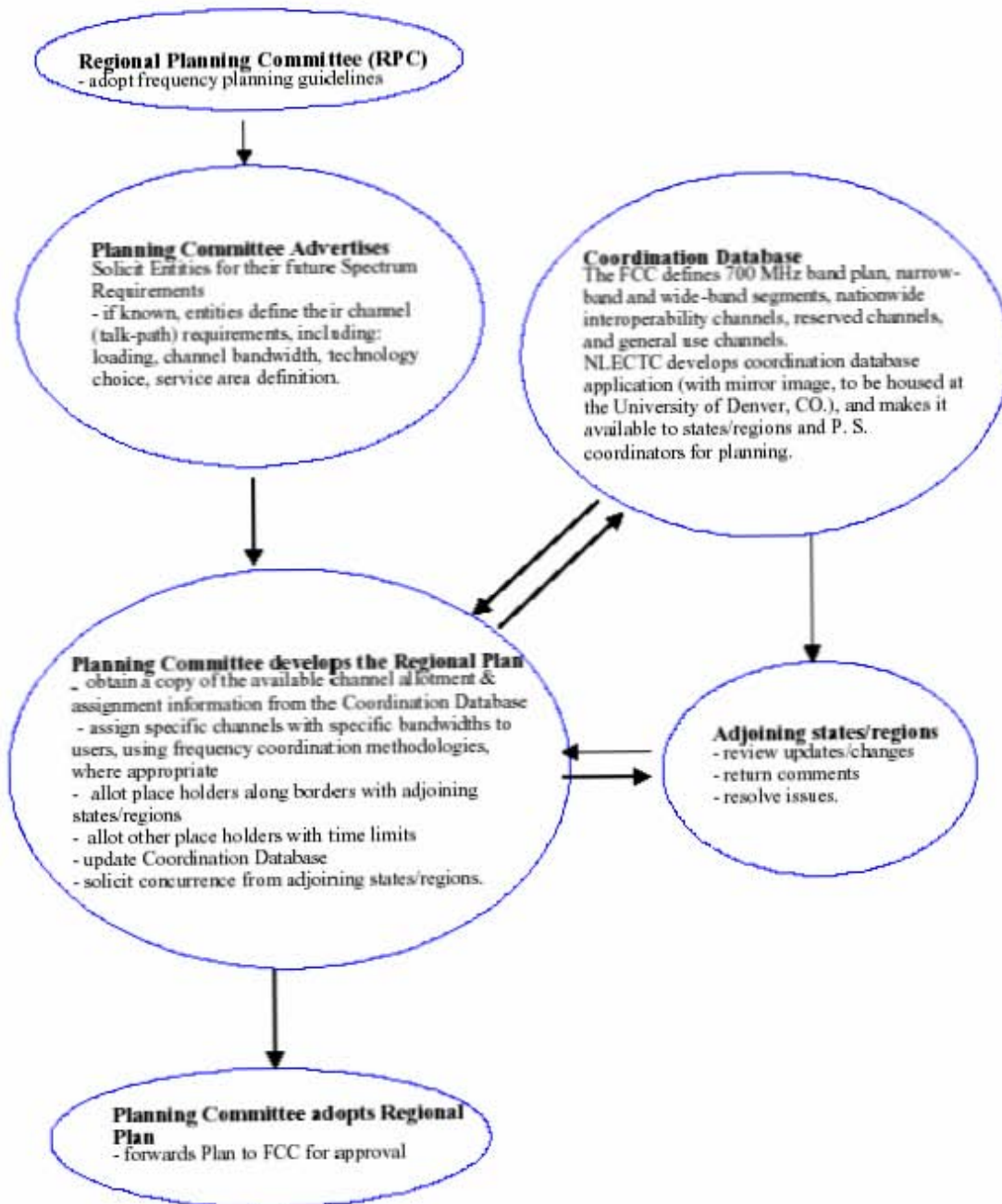
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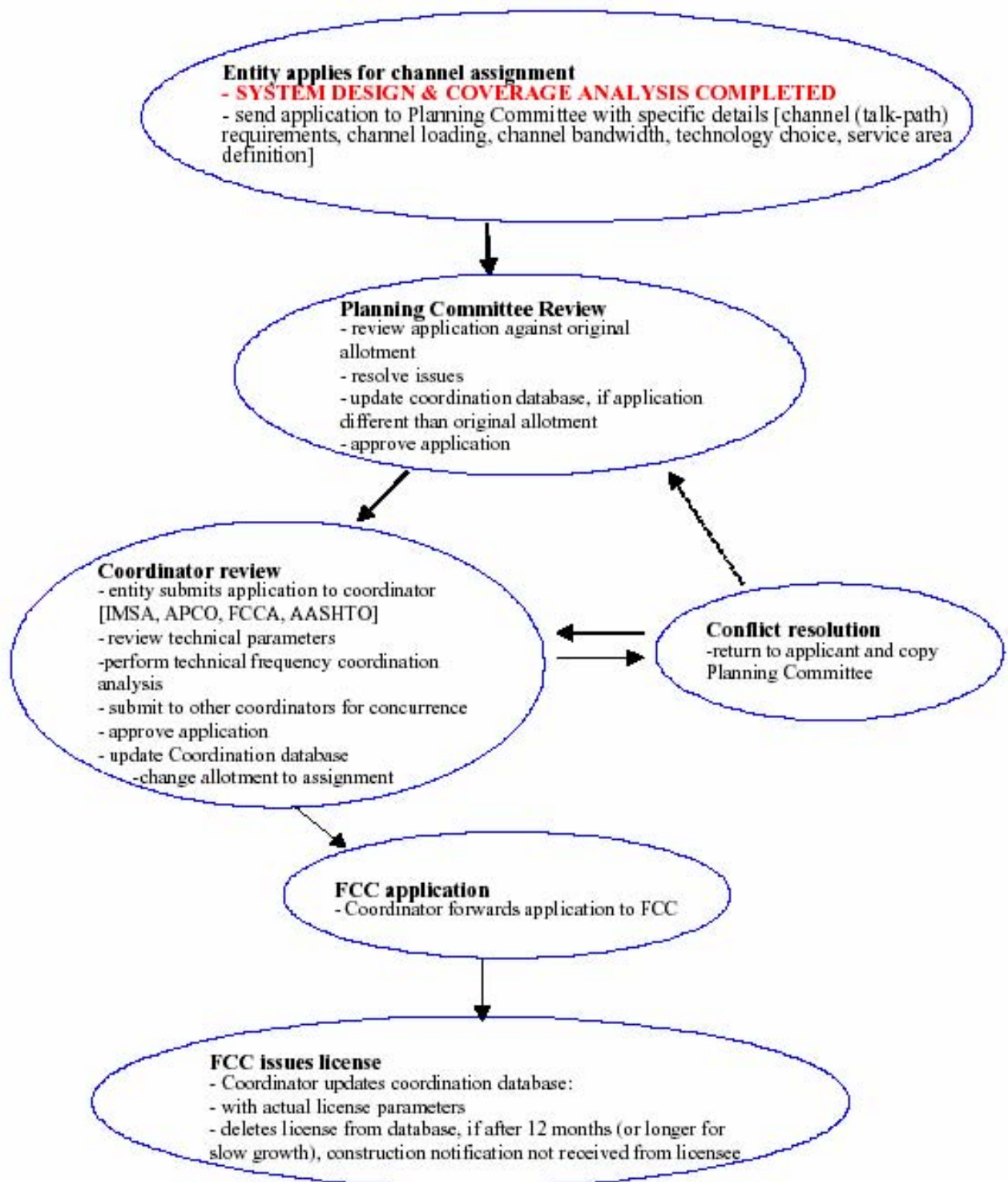
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NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

APPENDIX G
PRE-PLANNING FLOW CHART



APPENDIX G
COORDINATION FLOW CHART



APPENDIX K

Simplified 700 MHz Pre-Assignment Rules Recommendation

Introduction

This paper describes a process for coordinating the initial block assignments of 700 MHz channels before details of actual system deployments is available. In this initial phase, there is little actual knowledge of the specific equipment to be deployed and the exact antenna sites locations. As a result, a simple, high-level method is proposed to establish guidelines for frequency coordination. When actual systems are deployed, additional details will be known and the system designers will be required to select specific sites and supporting hardware to control interference.

The calculations and examples presented in this Appendix are specific to ANSI/TIA/EIA-102 series (Project 25) standards, unless stated otherwise. General Use channels may employ other digital technologies. When evaluating interference potential involving other digital technologies, refer to the latest version of TIA Technical Services Bulletin TSB-88.

Overview

Assignments will be based on a defined service area for each applicant. This will normally be an area defined by geographical or political boundaries such as city, county or by a data file consisting of line segments creating a polygon that encloses the defined area. The service contour is normally allowed to extend slightly beyond the geo/political boundaries such that systems can be designed for maximum signal levels within the boundaries, or coverage area. Systems must also be designed to minimize signal levels outside their geo/political boundaries to avoid interference into the coverage area of other co-channel users.

For co-channel assignments, the 40 dB μ service contour will be allowed to extend beyond the defined service area by 3 to 5 miles, depending on the type of environment: urban, suburban or rural. The co-channel 5 dB μ interfering contour will be allowed to touch but not overlap the 40 dB μ service contour of the system being evaluated. All contours are (50,50).

For adjacent and alternate channels, the 60 dB μ interfering contour will be allowed to touch but not overlap the 40 dB μ service contour of the system being evaluated. All contours are (50,50).

Discussion

Based upon the ERP/HAAT limitations referenced in 47CFR ¶90.541(a), the maximum field strength will be limited to 40 dB relative to 1 μ V/m (customarily denoted as 40 dB μ). It is assumed that this limitation will be applied similar to the way it is applied in the 821-824/866-869 MHz band. That is, a 40 dB μ field strength can be deployed up to a defined distance beyond the edge of the service area, based on the size of the service area or type of applicant, i.e. city, county or statewide system. This is important that public safety systems have adequate margins for reliability within their service area in the presence of interference, including the potential for interference from CMRS infrastructure in adjacent bands.

The value of 40 dBμ in the 700 MHz band corresponds to a signal of -92.7 dBm, received by a half-wavelength dipole ($\lambda/2$) antenna. The thermal noise floor for a 6.25 kHz bandwidth receiver would be in the range of -126 dBm, so there is a margin of approximately 33 dB available for “noise limited” reliability. Figure 1 shows show the various interfering sources and how they accumulate to form a composite noise floor that can be used to determine the “reliability” or probability of achieving the desired performance in the presence of various interfering sources with differing characteristics.

If CMRS out-of-band emissions (OOBE) noise is allowed to be equal to the original thermal noise floor, there is a 3 dB reduction¹ in the available margin. This lowers the reliability and/or the channel performance of Public Safety systems. The left side of Figure 1 shows that the original 33 dB margin is reduced by 3 dB to only 30 dB available to determine “noise + CMRS OOBE limited” performance and reliability.

There are also different technologies with various channel bandwidths and different performance criteria. C/N in the range of 17 – 20 dB is required to achieve channel performance.

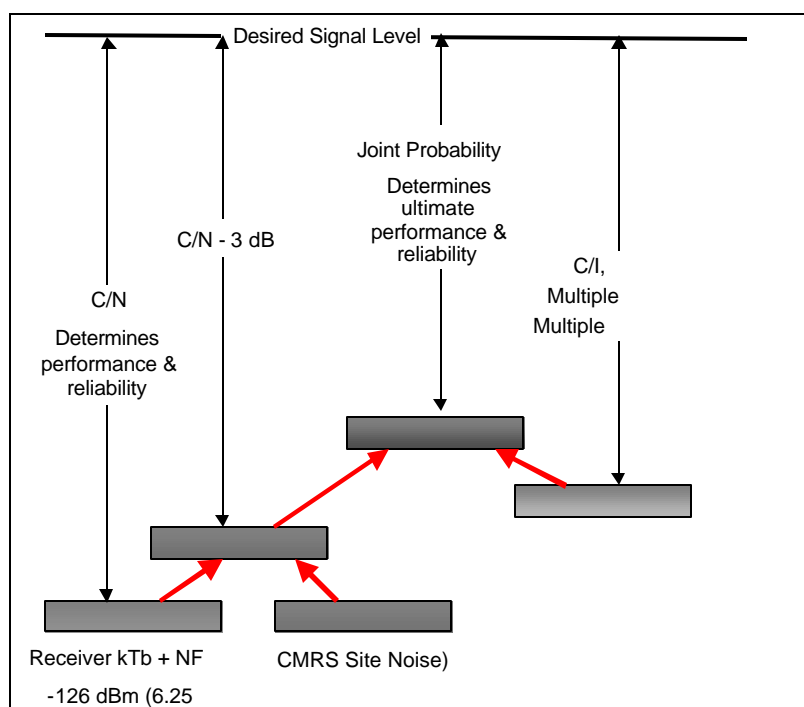


Figure 1 - Interfering Sources Create A “Noise” Level Influencing Reliability

In addition, unknown adjacent and alternate channel assignments need to be accounted for. The co-channel and adjacent/alternate sources are shown in the right hand side of Figure 1. At the edge of the service area, there would normally be only a single co-channel source, but there could potentially be several adjacent or alternate channel sources involved. It is recommended

¹ TIA TR8 made this 3 dB allowance for CMRS OOBE noise during the meetings in Mesa, AZ, January 2001.

that co-channel assignments limit interference to <1% at the edge of the service area (worst case mile). A C/I ratio of 26.4 dB plus the required capture value (~10 dB) is required to achieve this goal.².

The ultimate performance and reliability has to take into consideration both the noise sources (thermal & CMRS OOB) and all the interference sources. The center of Figure 1 shows that the joint probability that the both performance criteria and interference criteria are met must be determined.

Table 1 shows estimated performance considering the 3 dB rise in the noise floor at the 40 dBu signal level. Performance varies due to the different Cf/N requirements and noise floors of the different modulations and channel bandwidths.

Note that since little is known about the affects of terrain, an initial lognormal standard deviation of 8 dB is used.

Comparison of Joint Reliability for various				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver ENBW (kHz)	6	6	9	18
Noise Figure(10 dB)	10	10	10	10
Receiver Noise Floor (dBm)	-126.22	-126.22	-124.46	-121.45
Rise in Noise Floor (dB)	3.00	3.00	3.00	3.00
New Receiver Noise Floor (dB)	-123.22	-123.22	-121.46	-118.45
40 dBu = -92.7 dBm	-92.7	-92.7	-92.7	-92.7
Receiver Capture (dB)	10.0	10.0	10.0	10.0
Noise Margin (dB)	30.52	30.52	28.76	25.75
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
C/N Margin (dB)	13.52	13.52	10.76	5.75
Standard deviation (8 dB)	8.0	8.0	8.0	8.0
Z	1.690	1.690	1.345	0.718
Noise Reliability (%)	95.45%	95.45%	91.06%	76.37%
C/I for <1% prob of capture	36.4	36.4	36.4	36.4
I (dBu)	3.7	3.7	3.7	3.7
I (dBm)	-129.0	-129.0	-129.0	-129.0
Joint Probability (C & I)	94.7%	94.7%	90.4%	76.1%
40 dBu = -92.7 dBm @ 770 MHz				

Table 1 Joint Probability For Project 25, 700 MHz Equipment Configurations.

These values are appropriate for a mobile on the street, but are considerably short to provide reliable communications to portables inside buildings.

Portable In-Building Coverage

² See Attachment A for an explanation of how the 1% interference value is defined and derived.

Most Public Safety communications systems, today, are designed for portable in-building³ coverage and the requirement for >95 % reliable coverage. To analyze the impact of requiring portable in building coverage and designing to a 40 dBμ service contour, several scenarios are presented. The different scenarios involve a given separation from the desired sites. Whether simulcast or multi-cast is used in wide-area systems, the antenna sites must be placed near the service area boundary and directional antennas, directed into the service area, must be used. The impact of simulcast is included to show that the 40 dBμ service contour must be able to fall outside the edge of the service area in order to meet coverage requirements at the edge of the service area. From the analysis, recommendations are made on how far the 40 dBμ service contour should extend beyond the service area.

Table 2 estimates urban coverage where simulcast is required to achieve the desired portable in building coverage. Several assumptions are required to use this estimate.

- Distance from the location to each site. Equal distance is assumed.
- CMRS noise is reduced when entering buildings. This is not a guarantee as the type of deployments is unknown. It is possible that CMRS units may have transmitters inside buildings. This could be potentially a large contributor unless the CMRS OOB is suppressed to TIA's most recent recommendation and the "site isolation" is maintained at 65 dB minimum.
- The 40 dBμ service contour is allowed to extend beyond the edge of the service area boundary.
- Other configurations may be deployed utilizing additional sites, lower tower heights, lower ERP and shorter site separations.

Estimated Performance at 2.5 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 2.5 miles (dBm)	-72.7	-72.7	-72.7	-72.7
Margin (dB)	53.50	53.50	51.80	45.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	20	20	20	20
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	85.60%	85.60%	76.58%	39.17%
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

Table 2, Estimated Performance From Site(s) 2.5 Miles From Typical Urban Buildings.

³ Building penetration losses typically required for urban = 20 dB, suburban = 15 dB, rural = 10 dB.

Table 2 shows for the example case of 2.5 miles that a single site cannot provide >95% reliability. Either more sites must be used to reduce the distance, or other system design techniques must be used to improve the reliability. For example, the table shows that simulcast can be used to achieve public safety levels of reliability at this distance. Table 2 also shows that the difference in performance margin requirements for wider bandwidth channels requires more sites and closer site-to-site separation.

Figures 2 and 3 show how the configurations would potentially be deployed for a typical site with 240 Watts ERP. This is based on:

- 75 Watt transmitter, 18.75 dBW
 - 200 foot tower
 - 10 dBd 180 degree sector antenna +10.0 dBd
 - 5 dB of cable/filter loss. - 5.0 dB
- 23.75 dBW \approx 240 Watts (ERPd)

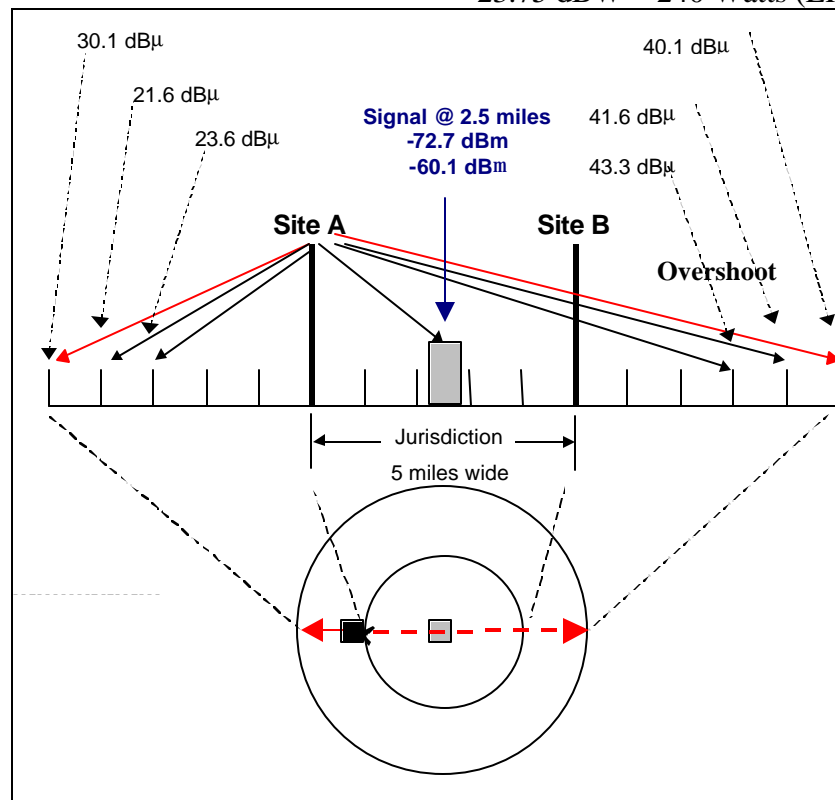


Figure 2 - Field Strength From Left Most Site.

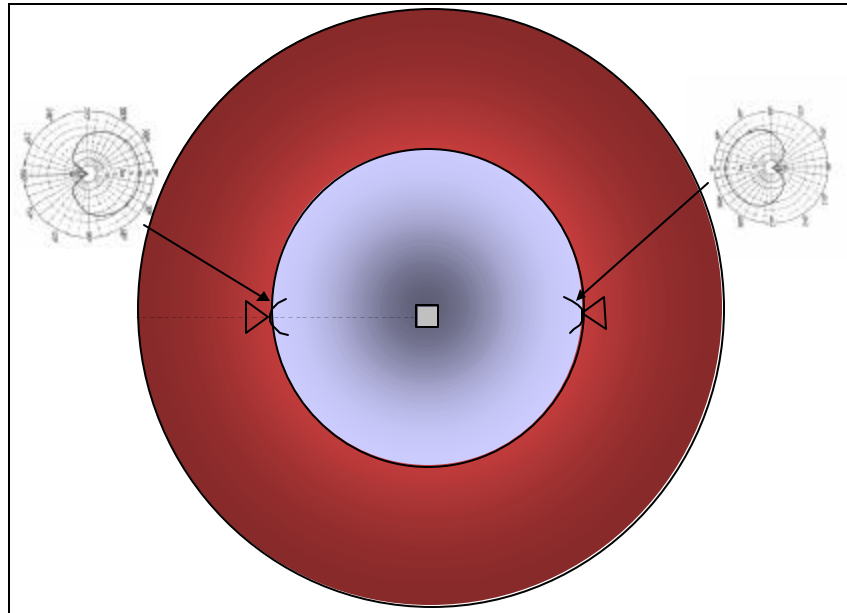


Figure 3 - Antenna Configuration Required To Limit Field Strength Off “Backside”

Figure 2 is for an urbanized area with a jurisdiction defined as a 5 mile circle. To provide the necessary coverage to portables in buildings at the center of the jurisdiction requires that the sites be placed along the edge of the service area and utilize directional antennas oriented toward the center of the service area (Figure 3). In this case, at 5 miles beyond the edge of the service area, the sites would produce a composite field strength of approximately 40 dBμ. Since one site is over 10 dB dominant, the contribution from the other site is not considered. The control of the field strength behind the site relies on a 20 dB antenna with a Front to Back Ratio (F/B) specification as shown in Figure 3. This performance may be optimistic due to back scatter off local obstructions in urbanized areas. However, use of antennas on the sides of buildings can assist in achieving better F/B ratios and the initial planning is not precise enough to prohibit using the full 20 dB.

The use of a single site at the center of the service area is not normally practical. To provide the necessary signal strength at the edge of the service area would produce a field strength 5 miles beyond in excess of 44 dBμ. However, if the high loss buildings were concentrated at the service area’s center, then potentially a single site could be deployed, assuming that the building loss sufficiently decreases near the edge of the service area allowing a reduction in ERP to achieve the desired reliability.

Instead of directional antennas, downtilting of antennas to control the 40 dBμ is not practical in this scenario. For a 200 foot tall tower, the center of radiation from a 3 degree downtilt antenna hits the ground at ~ 0.75 miles⁴. The difference in angular discrimination from a 200 foot tall tower at service area boundary at 5 miles and service contour at 10 miles is approximately 0.6 degrees, so ERP is basically the same as ERP toward the horizon. It would not be possible to

⁴ Use of high gain antennas with down-tilt on low-level sites is one of the causes of far-near interference experienced in the 800 MHz band.

achieve necessary signal strength at service area boundary and have 40 dB μ service contour be less than 5 miles away.

Tables 3 and 4 represent the same configuration, but for less dense buildings. In these cases, the distance to extend the 40 dB μ service contour can be determined from Table 5.

Estimated Performance at 3.5 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 3.5 miles (dBm)	-77.7	-77.7	-77.7	-77.7
Margin (dB)	48.50	48.50	46.80	40.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	15	15	15	15
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	85.60%	85.60%	76.58%	39.17%
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

Table 3 - Lower Loss Buildings, 3.5 Mile From Site(s)

Estimated Performance at 5.0 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 5.0 miles (dBm)	-82.7	-82.7	-82.7	-82.7
Margin (dB)	43.50	43.50	41.80	35.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	10	10	10	10
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	85.60%	85.60%	76.58%	39.17%
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

Table 4 - Low Loss Buildings, 5.0 Miles From Site(s)

Note that the receive signals were adjusted to offset the lowered building penetration loss. This produces the same numerical reliability results, but allows increasing the site to building separation and this in turn lowers the magnitude of the “overshoot” across the service area.

Table 5 shows the field strength for a direct path and for a path reduced by a 20 dB F/B antenna. This allows the analysis to be simplified for the specific example being discussed.

	Site A Direct Path	Site B Back Side of 20 dB F/B Antenna
Overshoot Distance (mi)	Field Strength (dBμ)	Field Strength (dBμ)
1	73.3	53.3
2	63.3	43.3
2.5	60.1	40.1
3	57.5	37.5
4	53.3	33.5
5	50.1	30.1
...	...	
10	40.1	
11	38.4	
12	37.5	
13	36.0	
14	34.5	
15	33.0	

Table 5 - Field Strength Vs. Distance From Site

For the scenarios above, the composite level at the Service Contour is the sum of the signals from the two sites. The sum can not exceed 40 dBμ. Table 5 allows you to calculate the distance to Service Contour given the distance from one of the sites.

Scenario 1: Refer to Figure 3a. Site B is just inside the Service Area boundary and Service Contour must be <5 Miles outside Service Area boundary. Signal level at Service Contour from Site B is 30.1 dBμ. Signal level for Site A can be up to 40 dBμ, since when summing two signals with >10 dB delta, the lower signal level has little effect (less than 0.4 dB in this case). Therefore, Site A can be 10 miles from the Service Contour, or 5 miles inside the Service Area boundary. The coverage performance for this scenario is shown in Table 2, above, for 20 dB building loss typical of urban areas.

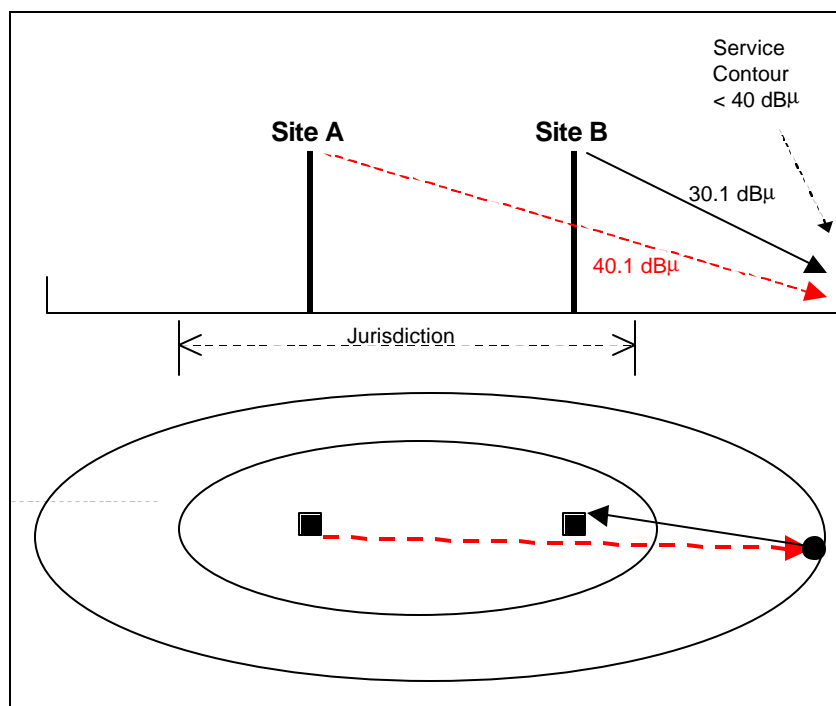


Figure 3a. Scenario 1 on Use of Table 5

Scenario 2: Refer to bold data in Table 5. Site B is just inside the Service Area boundary and Service Contour must be <4 Miles outside Service Area boundary. Signal level at Service Contour from Site B is 33.5 dBμ. Signal level for Site A can be up to 38.4 dBμ. (See Attachment B for simple method to sum the powers of signals expressed in decibels.) The composite power level is 39.7 dBμ. Therefore, Site A can be slightly less than 11 miles from the Service Contour, or ~7 miles inside the Service Area boundary. The coverage performance for this example is shown in Table 3, above, for 15 dB building loss typical of suburban areas.

Scenario 3: Site B is just inside the Service Area boundary and Service Contour must be <3 Miles outside Service Area boundary. Signal level at Service Contour from Site B is 37.5 dBμ. Signal level for Site A can be up to 36.4 dBμ. (See Attachment B simple method to sum signals expressed in decibels.) The composite power level is 40.0 dBμ. Therefore, Site A can be ~13 miles from the Service Contour, or ~10 miles inside the Service Area boundary. The coverage performance for this example is shown in Table 4, above, for 10 dB building loss typical of rural areas.

Service Contour Extension Recommendation

The resulting recommendation for extending the 40 dB μ service contour beyond the service area boundary is:

Type of Area	Extension (mi.)
Urban (20 dB Buildings)	5
Suburban (15 dB Buildings)	4
Rural (10 dB Buildings)	3

Table 6 - Recommended Extension Distance Of 40 dB μ Field Strength

Using this recommendation, the 40 dB μ service contour can then be constructed based on the defined service area without having to perform an actual prediction.

Interfering Contour

Table 1 above shows that 36.4 dB of margin is required to provide 10 dB of co-channel capture and <1% probability of interference. Since the 40 dB μ service contour is beyond the edge of the service area, some relaxation in the level of interference is reasonable. Therefore, a 35 dB co-channel C/I ratio is recommended and is consistent with what is currently being licensed in the 821-824/866-869 MHz Public Safety band.

Co-Channel Interfering Contour Recommendation

- Allow the constructed 40 dB μ (50,50) service contour to extend beyond the edge of the defined service area by the distance indicated in Table 6.
- Allow the 5 dB μ (50,50) interfering contour to intercept but not overlap the 40 dB μ service contour.

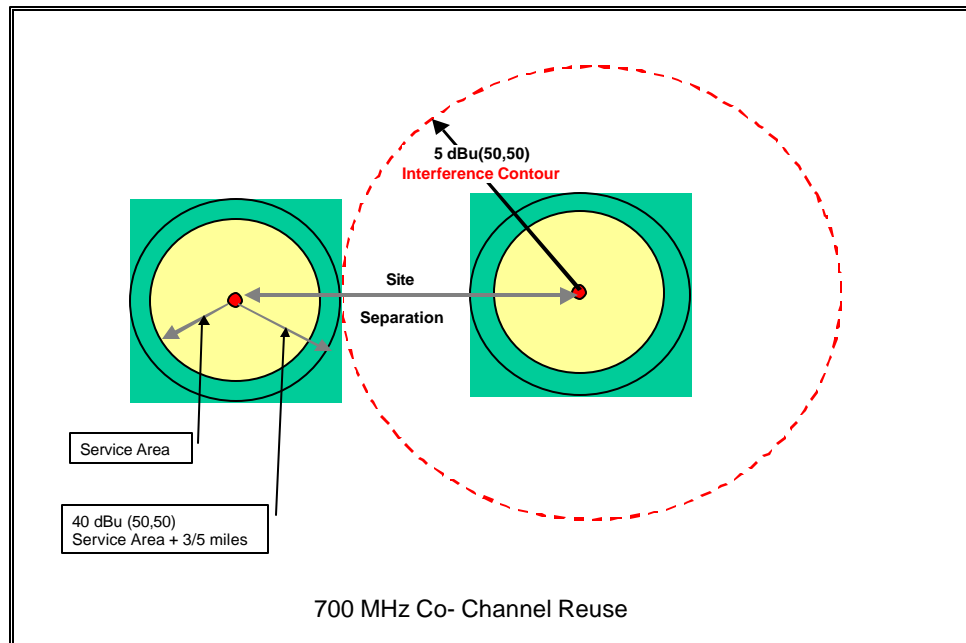


Figure 4 - Co-Channel Reuse Criterion

Adjacent and Alternate Channel Considerations

Adjacent and alternate channels are treated as being noise sources that alter the composite noise floor of a victim receiver. Using the 47 CFR §90.543 values of ACCP can facilitate the coordination of adjacent and alternate channels. The C/I requirements for <1% interference can be reduced by the value of ACCPR. For example to achieve an X dB C/I for the adjacent channel that is -40 dBc a C/I of [X-40] dB is required. Where the alternate channel ACP value is -60 dBc, then the C/I = [X-60] dB is the goal for assignment(s). There is a compounding of interference energy, as there are numerous sources, i.e. co channel, adjacent channels and alternate channels plus the noise from CMRS OOB.

There is insufficient information in 47 CFR §90.543 to include the actual receiver performance. Receivers typically have “skirts” that allow energy outside the bandwidth of interest to be received. In addition, the FCC defines ACCP differently than does the TIA. The term used by the FCC is the same as the TIA definition of ACP. The subtle difference is that ACCP defines the energy intercepted by a defined receiver filter (e.g., 6 kHz ENBW). ACP defines the energy in a measured bandwidth that is typically wider than the receiver (e.g., 6.25 kHz channel bandwidth). As a result, the FCC values are optimistic at very close spacing and somewhat pessimistic at wider spacings, as the typical receiver filter is less than the channel bandwidth.

In addition, as channel bandwidth is increased, the total amount of noise intercepted rises compared to the level initially defined in a 6.25 kHz channel band width. However, the effect is diminished at very close spacings as the slope of the noise curve falls off rapidly. At greater spacings, the slope of the noise curve is essentially flat and the receiver’s filter limits the noise to a rise in the thermal noise floor.

Digital receivers tend to be less tolerant to interference than analog. Therefore, a 3 dB reduction in the $C/(I+N)$ can reduce a $DAQ = 3$ to a $DAQ = 2$, which is threshold to complete muting in digital receivers. Therefore to maintain a $DAQ = 3$, at least 17 dB of fading margin plus the 26.4 dB margin for keeping the interference below 1% probability is required, for a total margin of 43.4 dB. However, this margin would be at the edge of the service area and the 40 dB μ service contour is allowed to extend past the edge of the service area.

Frequency drift is controlled by the FCC requirement for 0.4-ppm stability when locked. This equates to approximately a 1 dB standard deviation, which is negligible when associated with the recommended initial lognormal standard deviation of 8 dB and can be ignored.

The ANSI/TIA/EIA-102 series (Project 25) standards require that a transceiver receiver have an ACIPR of 60 dB. This implies that an $ACCPR \geq 65$ dB will exist for a “companion receiver”. A companion receiver is one that is designed for the specific modulation. At this time the highest likelihood is that receivers will be deploying the following receiver bandwidths at the following channel bandwidths. Note that these calculations apply only to interference between systems built to Project 25 standards. General Use channels may employ other digital technologies.

Estimated Receiver Parameters	
Channel Bandwidth	Receiver Bandwidth
6.25 kHz	5.5 kHz
12.5 kHz	5.5 or 9 kHz
25 kHz	18.0 kHz

Table 7 - Estimated Receiver Parameters

Based on 47 CFR ¶90.543 and the P25 requirement for an $ACCPR \geq 65$ dB into a 6.0 kHz channel bandwidth and leaving room for a migration from Phase 1 to Phase 2, allows for making the simplifying assumption that 65 dB $ACCPR$ is available for both adjacent 25 kHz spectrum blocks.

The assumption is that initial spectrum coordination sorts are based on 25 kHz bandwidth channels. This provides the maximum flexibility by using 65 dB $ACCPR$ for all but one possible combination of 6.25 kHz channels within the 25 kHz allotment.

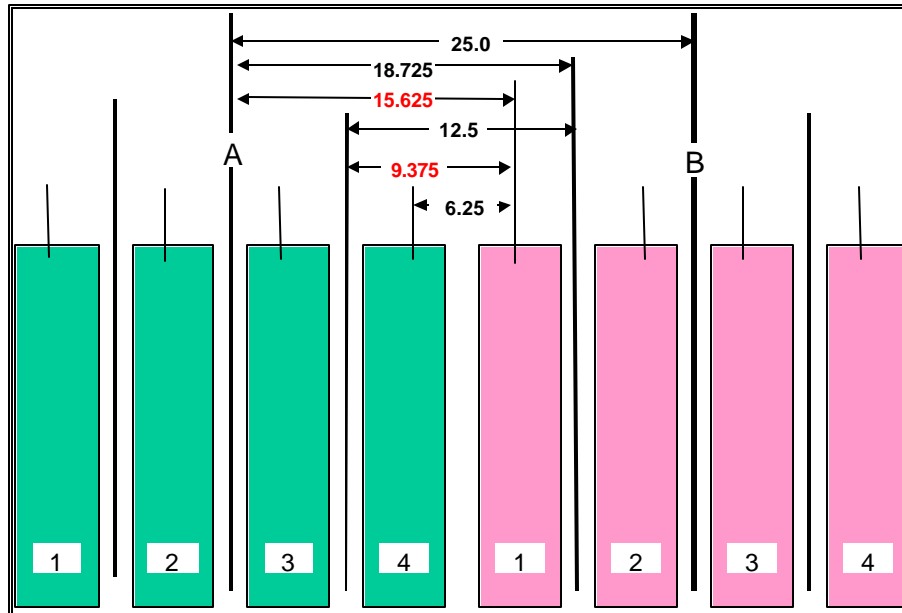


Figure 5, Potential Frequency Separations

Case	Spacing	ACCPR
25 kHz to 25 kHz	25 kHz	65 dB
25 kHz to 12.5 kHz	18.725 kHz	65 dB
25 kHz to 6.25 kHz	15.625 kHz	>40 dB
12.5 kHz to 12.5 kHz	12.5 kHz	65 dB
12.5 kHz to 6.25 kHz	9.375 kHz	>40 dB
6.25 kHz to 6.25 kHz	6.25 kHz	65 dB

Table 8 - ACCPR Values For Potential Frequency Separations

All cases meet or exceed the FCC requirement. The most troublesome cases occur where the wider bandwidths are working against a Project 25 Phase 2 narrowband 6.25 kHz channel. This pre-coordination based upon 25 kHz spectrum blocks still works if system designers and frequency coordinators keep this consideration in mind and move the edge 6.25 kHz channels inward away from the edge of the system. This approach allows a constant value of 65 dB ACCPR to be applied across all 25 kHz spectrum blocks regardless of what channel bandwidth is eventually deployed. There will also be additional coordination adjustments when exact system design details and antenna sites are known.

For spectrum blocks spaced farther away, it must be assumed that transmitter filtering, in addition to transmitter performance improvements due to greater frequency separation, will further reduce the ACCPR.

Therefore it is recommended that a consistent value of 65 dB ACCPR be used for the initial coordination of adjacent 25 kHz channel blocks. Rounding to be conservative due to the possibility of multiple sources allows the Adjacent Channel Interfering Contour to be approximately 20 dB above the 40 dBμ service contour, at 60 dBμ.

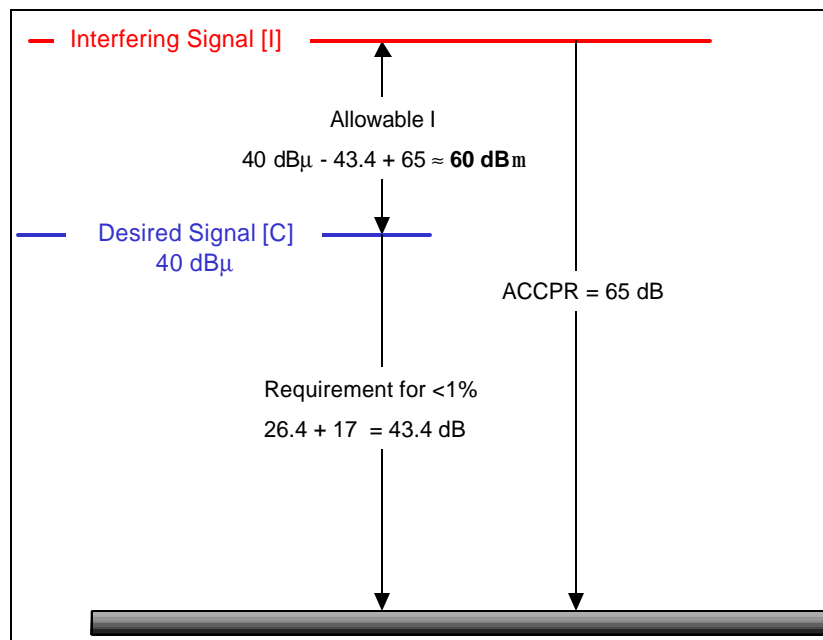


Figure 6 - Adjusted Adjacent 25 kHz Channel Interfering Contour Value

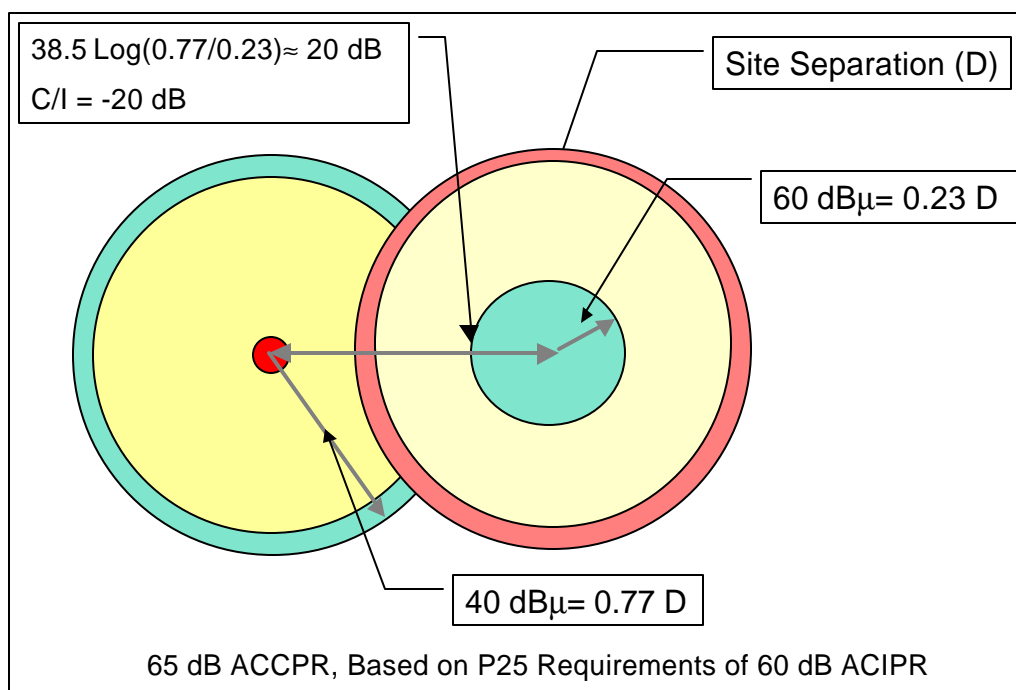


Figure 7 - Example Of Adjacent/Alternate Overlap Criterion

Adjacent Channel Interfering Contour Recommendation

An adjacent (25 kHz) channel shall be allowed to have its 60 dBμ (50,50) interfering contour touch but not overlap the 40 dB? (50,50) service contour of a system being evaluated. Evaluations should be made in both directions.

Final Detailed Coordination

This simple method is only adequate for presorting large blocks of spectrum to potential entities. A more detailed analysis should be executed in the actual design phase to take all the issues into consideration.

Additional factors that should be considered include:

- Degree of Service Area Overlap
- Different size of Service Areas
- Different ERPs and HAATs
- Actual Terrain and Land Usage
- Differing User Reliability Requirements
- Migration from Project 25 Phase 1 to Phase 2
- Actual ACCP
- Balanced Systems
- Mobiles vs. Portables
- Use of voting
- Use of simulcast
- Radio specifications
- Simplex Operation
- Future unidentified requirements

Special attention needs to be paid to the use of simplex operation. In this case, an interferer can be on an offset adjacent channel and in extremely close proximity to the victim receiver. This is especially critical in public safety where simplex operations are frequently used at a fire scene or during police operation. This type operation is also quite common in the lower frequency bands. In those cases, evaluation of base-to-base as well as mobile-to-mobile interference should be considered and evaluated.

Attachment A

Carrier to Interference Requirements

There are two different ways that Interference is considered.

- Co Channel
- Adjacent and Alternate Channels

Both involve using a C/I ratio. The C/I ratio requires a probability be assigned. For example, if 10% Interference is specified, the C/I implies 90% probability of successfully achieving the desired ratio. 1% interference means that there is a 99% probability of achieving the desired C/I.

$$\frac{C}{I} \% = \frac{1}{2} \bullet \operatorname{erfc} \left(\frac{\frac{C}{I} \text{ margin}}{2s} \right) \quad (1)$$

This can also be written in a form using the standard deviate unit (Z). In this case the Z for the desired probability of achieving the C/I is entered. For example, for a 90% probability of achieving the necessary C/I, $Z = 1.28$.

$$\frac{C}{I} \% = Z \cdot \sqrt{2} \cdot s \quad (2)$$

The most common requirements for several typical lognormal standard deviations (?) are included in the following table based on Equation (2).

Location Standard Deviation (o) dB	5.6	6.5	8	10
Probability %				
10%	10.14 dB	11.77 dB	14.48 dB	18.10 dB
5%	13.07 dB	15.17 dB	18.67 dB	23.33 dB
4%	13.86 dB	16.09 dB	19.81 dB	24.76 dB
3%	14.90 dB	17.29 dB	21.28 dB	26.20 dB
2%	16.27 dB	18.88 dB	23.24 dB	29.04 dB
1%	18.45 dB	21.42 dB	26.36 dB	32.95 dB

Table A1 - Probability Of Not Achieving C/I For Various Location Lognormal Standard Deviations

These various relationships are shown in Figure A1, a continuous plot of equation(s) 1 and 2.

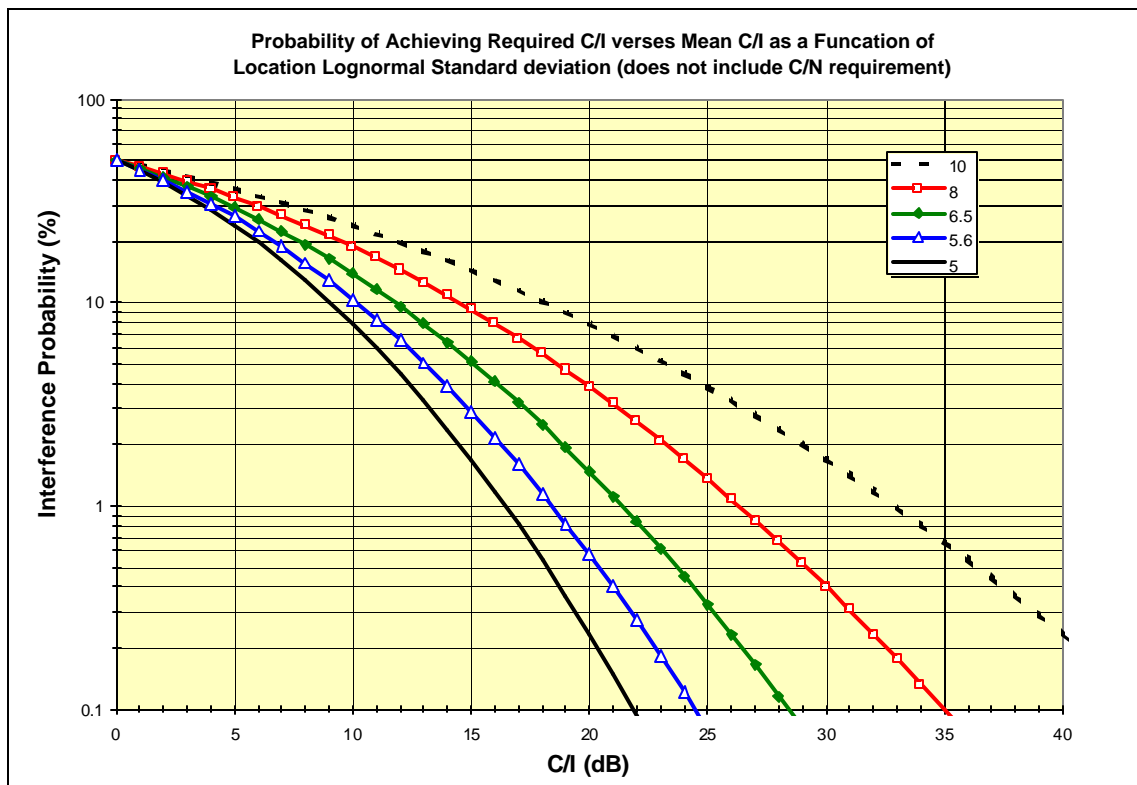


Figure A1, Probability Of Achieving Required C/I As A Function Of Location Standard Deviation

For co-channel the margin needs to include the “capture” requirement. When this is done, then a 1% probability of co channel interference can be rephrased to mean, there is a 99% probability that the “capture ratio” will be achieved. The capture ratio varies with the type of modulation. Older analog equipment has a capture ratio of approximately 7 dB. Project 25 FDMA is specified at 9 dB. Figure A1 shows the C/I requirement without including the capture requirement.

The 8 dB value for lognormal location standard deviation is reasonable when little information is available. Later when a detailed design is required, additional details and high-resolution terrain and land usage databases will allow a lower value to be used. The TIA recommended value is

5.6 dB. Using 8 dB initially and changing to 5.6 dB provides additional flexibility necessary to complete the final system design.

To determine the desired probability that both the C/N and C/I will be achieved requires that a joint probability be determined. Figure A2 shows the effects of a family of various levels of C/N reliability and the joint probability (Y-axis) in the presence of various probabilities of Interference. Note that at 99% reliability with 1% interference (X-axis) that the reduction is nearly the difference. This is because the very high noise reliability is degraded by the interference, as there is little probability that the noise criterion will not be satisfied. At 90%, the 1% interference has a greater likelihood that it will occur simultaneously when the noise criterion not being met, resulting in less degradation of the 90%.

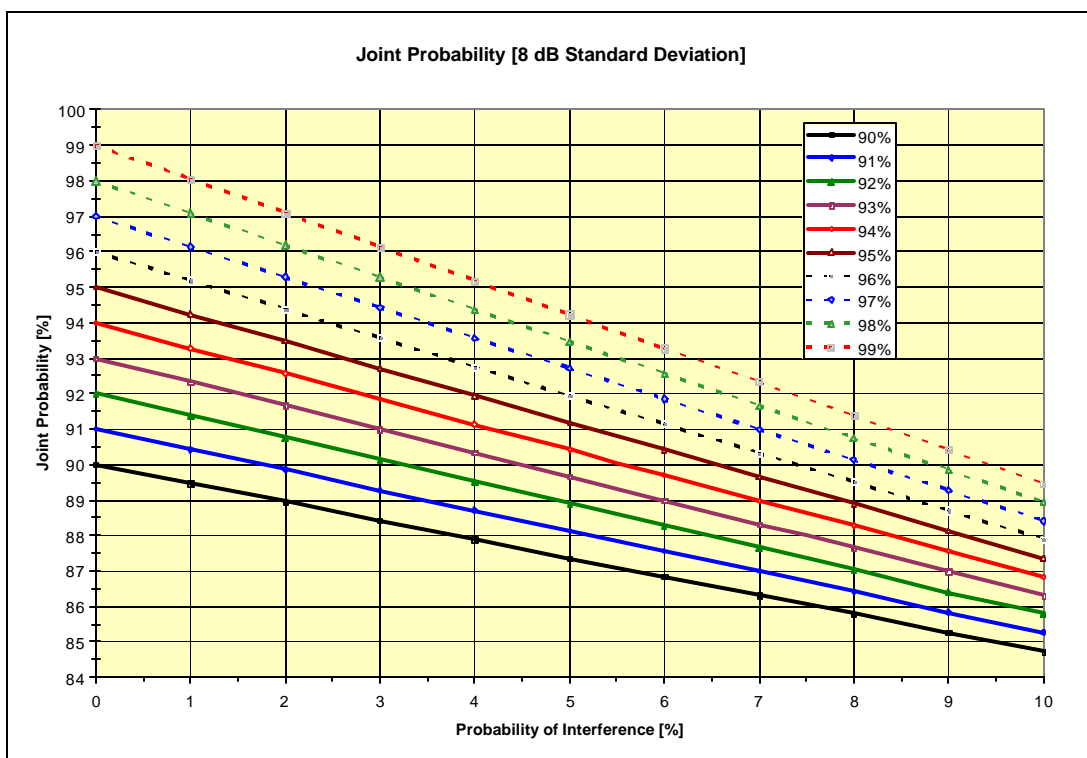
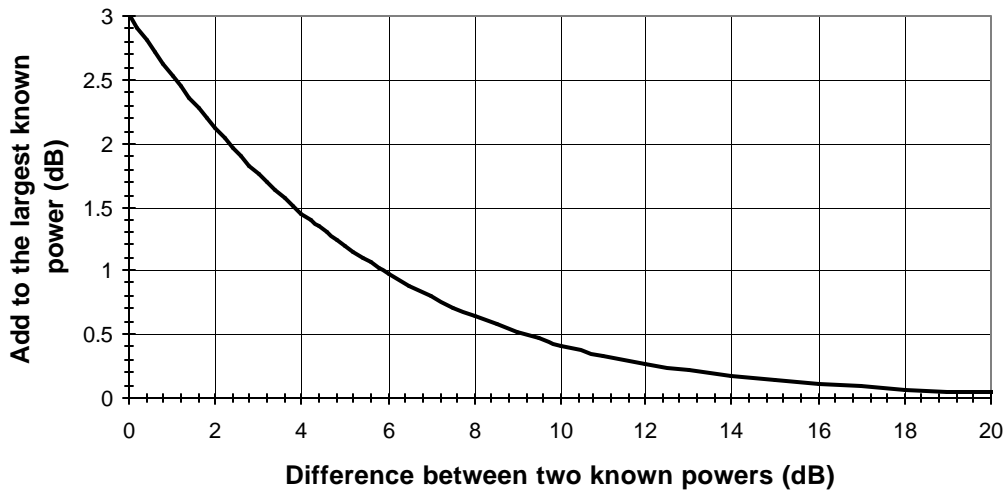


Figure A2 - Effect Of Joint Probability On The Composite Probability

For adjacent and alternate channels, the channel performance requirement must be added to the C/I ratio. When this is applied, then a 1% probability of adjacent/alternate channel interference can be rephrased to mean, there is a 99% probability that the “channel performance ratio” will be achieved.

Attachment B

Adding Two Known Non-Coherent Powers



In order to sum the power of two or more signals expressed in dBm or dBμ, the level should be converted to a voltage level or a power level, summed (root of the sum of the squares), and then converted back to dBm or dBμ.

The chart above provides simple method to sum two power levels expressed in dBm or dBμ. First find the difference between the two signals on the horizontal axis. Go up to the curve and across to the vertical axis to find the power delta. Add the power delta to the larger of the two original signal levels.

Example 1: Signal A is 36.4 dBμ. Signal B is 37.5 dBμ. Difference is 1.1 dB. Power delta is about 2.5 dB. Composite signal level is 37.5 dBμ + 2.5 dB = 40 dBμ.

Example 2: Signal is -96.3 dBm. Signal B is -95.2 dBm. Difference is 1.1 dB. Power delta is about 2.5 dB. Composite signal level is -95.2 dBm + 2.5 dB = -92.7 dBm.

Appendix L

Region 2 - Alaska Detailed Channel Allotments by Area Name Channel Class Base Frequency Mobile Frequency

Aleutians East	17-20	General Use	764.112500 794.112500
	81-84	General Use	764.512500 794.512500
	121-124	General Use	764.762500 794.762500
	161-164	General Use	765.012500 795.012500
	201-204	General Use	765.262500 795.262500
	241-244	General Use	765.512500 795.512500
	281-284	General Use	765.762500 795.762500
	341-344	General Use	766.137500 796.137500
	381-384	General Use	766.387500 796.387500
	421-424	General Use	766.637500 796.637500
	477-480	General Use	766.987500 796.987500
	501-504	General Use	773.137500 803.137500
	549-552	General Use	773.437500 803.437500
	589-592	General Use	773.687500 803.687500
	629-632	General Use	773.937500 803.937500
	669-672	General Use	774.187500 804.187500
	717-720	General Use	774.487500 804.487500
	757-760	General Use	774.737500 804.737500
	797-800	General Use	774.987500 804.987500
	861-864	General Use	775.387500 805.387500
Aleutians West	901-904	General Use	775.637500 805.637500
	945-948	General Use	775.912500 805.912500
	45-48	General Use	764.287500 794.287500
	97-100	General Use	764.612500 794.612500
	169-172	General Use	765.062500 795.062500
	213-216	General Use	765.337500 795.337500
	253-256	General Use	765.587500 795.587500
	293-296	General Use	765.837500 795.837500
	333-336	General Use	766.087500 796.087500
	373-376	General Use	766.337500 796.337500
	413-416	General Use	766.587500 796.587500
	461-464	General Use	766.887500 796.887500
	513-516	General Use	773.212500 803.212500
	557-560	General Use	773.487500 803.487500
	597-600	General Use	773.737500 803.737500
	637-640	General Use	773.987500 803.987500
	705-708	General Use	774.412500 804.412500
	781-784	General Use	774.887500 804.887500
	825-828	General Use	775.162500 805.162500
	873-876	General Use	775.462500 805.462500
	917-920	General Use	775.737500 805.737500

Anchorage	89-92	General Use	764.562500 794.562500
	97-100	General Use	764.612500 794.612500
	161-164	General Use	765.012500 795.012500
	201-204	General Use	765.262500 795.262500
	257-260	General Use	765.612500 795.612500
	297-300	General Use	765.862500 795.862500
	341-344	General Use	766.137500 796.137500
	381-384	General Use	766.387500 796.387500
	421-424	General Use	766.637500 796.637500
	465-468	General Use	766.912500 796.912500
	481-484	General Use	773.012500 803.012500
	541-544	General Use	773.387500 803.387500
	581-584	General Use	773.637500 803.637500
	621-624	General Use	773.887500 803.887500
	669-672	General Use	774.187500 804.187500
	717-720	General Use	774.487500 804.487500
	757-760	General Use	774.737500 804.737500
	797-800	General Use	774.987500 804.987500
	837-840	General Use	775.237500 805.237500
	877-880	General Use	775.487500 805.487500
	941-944	General Use	775.887500 805.887500
Bethel	93-96	General Use	764.587500 794.587500
	137-140	General Use	764.862500 794.862500
	201-204	General Use	765.262500 795.262500
	297-300	General Use	765.862500 795.862500
	341-344	General Use	766.137500 796.137500
	381-384	General Use	766.387500 796.387500
	421-424	General Use	766.637500 796.637500
	465-468	General Use	766.912500 796.912500
	517-520	General Use	773.237500 803.237500
	557-560	General Use	773.487500 803.487500
	597-600	General Use	773.737500 803.737500
	637-640	General Use	773.987500 803.987500
	717-720	General Use	774.487500 804.487500
	757-760	General Use	774.737500 804.737500
	797-800	General Use	774.987500 804.987500
	837-840	General Use	775.237500 805.237500
	877-880	General Use	775.487500 805.487500
	941-944	General Use	775.887500 805.887500
Bristol Bay	85-88	General Use	764.537500 794.537500
	137-140	General Use	764.862500 794.862500
	205-208	General Use	765.287500 795.287500
	297-300	General Use	765.862500 795.862500
	337-340	General Use	766.112500 796.112500
	377-380	General Use	766.362500 796.362500
	417-420	General Use	766.612500 796.612500
	469-472	General Use	766.937500 796.937500
	517-520	General Use	773.237500 803.237500
	557-560	General Use	773.487500 803.487500
	597-600	General Use	773.737500 803.737500
	637-640	General Use	773.987500 803.987500
	717-720	General Use	774.487500 804.487500
	785-788	General Use	774.912500 804.912500
	837-840	General Use	775.237500 805.237500
	877-880	General Use	775.487500 805.487500

	917-920	General Use	775.737500 805.737500
Dillingham	17-20	General Use	764.112500 794.112500
	57-60	General Use	764.362500 794.362500
	121-124	General Use	764.762500 794.762500
	177-180	General Use	765.112500 795.112500
	245-248	General Use	765.537500 795.537500
	285-288	General Use	765.787500 795.787500
	349-352	General Use	766.187500 796.187500
	389-392	General Use	766.437500 796.437500
	433-436	General Use	766.712500 796.712500
	477-480	General Use	766.987500 796.987500
	509-512	General Use	773.187500 803.187500
	549-552	General Use	773.437500 803.437500
	589-592	General Use	773.687500 803.687500
	629-632	General Use	773.937500 803.937500
	669-672	General Use	774.187500 804.187500
	709-712	General Use	774.437500 804.437500
	749-752	General Use	774.687500 804.687500
	821-824	General Use	775.137500 805.137500
	861-864	General Use	775.387500 805.387500
	901-904	General Use	775.637500 805.637500
Fairbanks-North Star	13-16	General Use	764.087500 794.087500
	53-56	General Use	764.337500 794.337500
	121-124	General Use	764.762500 794.762500
	177-180	General Use	765.112500 795.112500
	241-244	General Use	765.512500 795.512500
	289-292	General Use	765.812500 795.812500
	345-348	General Use	766.162500 796.162500
	385-388	General Use	766.412500 796.412500
	425-428	General Use	766.662500 796.662500
	477-480	General Use	766.987500 796.987500
	505-508	General Use	773.162500 803.162500
	557-560	General Use	773.487500 803.487500
	597-600	General Use	773.737500 803.737500
	637-640	General Use	773.987500 803.987500
	709-712	General Use	774.437500 804.437500
	749-752	General Use	774.687500 804.687500
	821-824	General Use	775.137500 805.137500
	861-864	General Use	775.387500 805.387500
	901-904	General Use	775.637500 805.637500
	945-948	General Use	775.912500 805.912500
Haines	13-16	General Use	764.087500 794.087500
	81-84	General Use	764.512500 794.512500
	121-124	General Use	764.762500 794.762500
	169-172	General Use	765.062500 795.062500
	217-220	General Use	765.362500 795.362500
	257-260	General Use	765.612500 795.612500
	297-300	General Use	765.862500 795.862500
	337-340	General Use	766.112500 796.112500
	377-380	General Use	766.362500 796.362500
	417-420	General Use	766.612500 796.612500
	477-480	General Use	766.987500 796.987500
	493-496	General Use	773.087500 803.087500
	549-552	General Use	773.437500 803.437500

	589-592	General Use	773.687500	803.687500
	629-632	General Use	773.937500	803.937500
	669-672	General Use	774.187500	804.187500
	709-712	General Use	774.437500	804.437500
	749-752	General Use	774.687500	804.687500
	789-792	General Use	774.937500	804.937500
	917-920	General Use	775.737500	805.737500
Juneau	49-52	General Use	764.312500	794.312500
	97-100	General Use	764.612500	794.612500
	161-164	General Use	765.012500	795.012500
	201-204	General Use	765.262500	795.262500
	241-244	General Use	765.512500	795.512500
	289-292	General Use	765.812500	795.812500
	329-332	General Use	766.062500	796.062500
	369-372	General Use	766.312500	796.312500
	409-412	General Use	766.562500	796.562500
	453-456	General Use	766.837500	796.837500
	501-504	General Use	773.137500	803.137500
	541-544	General Use	773.387500	803.387500
	581-584	General Use	773.637500	803.637500
	621-624	General Use	773.887500	803.887500
	661-664	General Use	774.137500	804.137500
	701-704	General Use	774.387500	804.387500
	741-744	General Use	774.637500	804.637500
	781-784	General Use	774.887500	804.887500
	825-828	General Use	775.162500	805.162500
	865-868	General Use	775.412500	805.412500
	909-912	General Use	775.687500	805.687500
Kenai Peninsula	41-44	General Use	764.262500	794.262500
	81-84	General Use	764.512500	794.512500
	129-132	General Use	764.812500	794.812500
	169-172	General Use	765.062500	795.062500
	209-212	General Use	765.312500	795.312500
	249-252	General Use	765.562500	795.562500
	333-336	General Use	766.087500	796.087500
	373-376	General Use	766.337500	796.337500
	413-416	General Use	766.587500	796.587500
	457-460	General Use	766.862500	796.862500
	489-492	General Use	773.062500	803.062500
	529-532	General Use	773.312500	803.312500
	569-572	General Use	773.562500	803.562500
	609-612	General Use	773.812500	803.812500
	661-664	General Use	774.137500	804.137500
	701-704	General Use	774.387500	804.387500
	741-744	General Use	774.637500	804.637500
	789-792	General Use	774.937500	804.937500
	829-832	General Use	775.187500	805.187500
	869-872	General Use	775.437500	805.437500
	909-912	General Use	775.687500	805.687500
Ketchikan Gateway	41-44	General Use	764.262500	794.262500
	81-84	General Use	764.512500	794.512500
	121-124	General Use	764.762500	794.762500
	165-168	General Use	765.037500	795.037500
	209-212	General Use	765.312500	795.312500

	249-252	General Use	765.562500 795.562500
	289-292	General Use	765.812500 795.812500
	329-332	General Use	766.062500 796.062500
	369-372	General Use	766.312500 796.312500
	409-412	General Use	766.562500 796.562500
	453-456	General Use	766.837500 796.837500
	501-504	General Use	773.137500 803.137500
	541-544	General Use	773.387500 803.387500
	581-584	General Use	773.637500 803.637500
	621-624	General Use	773.887500 803.887500
	661-664	General Use	774.137500 804.137500
	701-704	General Use	774.387500 804.387500
	741-744	General Use	774.637500 804.637500
	789-792	General Use	774.937500 804.937500
	829-832	General Use	775.187500 805.187500
	869-872	General Use	775.437500 805.437500
	913-916	General Use	775.712500 805.712500
Kodiak Island	17-20	General Use	764.112500 794.112500
	57-60	General Use	764.362500 794.362500
	121-124	General Use	764.762500 794.762500
	161-164	General Use	765.012500 795.012500
	201-204	General Use	765.262500 795.262500
	241-244	General Use	765.512500 795.512500
	281-284	General Use	765.762500 795.762500
	341-344	General Use	766.137500 796.137500
	381-384	General Use	766.387500 796.387500
	425-428	General Use	766.662500 796.662500
	477-480	General Use	766.987500 796.987500
	497-500	General Use	773.112500 803.112500
	549-552	General Use	773.437500 803.437500
	589-592	General Use	773.687500 803.687500
	629-632	General Use	773.937500 803.937500
	669-672	General Use	774.187500 804.187500
	713-716	General Use	774.462500 804.462500
	757-760	General Use	774.737500 804.737500
	821-824	General Use	775.137500 805.137500
	861-864	General Use	775.387500 805.387500
	901-904	General Use	775.637500 805.637500
	941-944	General Use	775.887500 805.887500
Lake & Peninsula	49-52	General Use	764.312500 794.312500
	217-220	General Use	765.362500 795.362500
	257-260	General Use	765.612500 795.612500
	321-324	General Use	766.012500 796.012500
	361-364	General Use	766.262500 796.262500
	401-404	General Use	766.512500 796.512500
	441-444	General Use	766.762500 796.762500
	481-484	General Use	773.012500 803.012500
	541-544	General Use	773.387500 803.387500
	581-584	General Use	773.637500 803.637500
	621-624	General Use	773.887500 803.887500
	677-680	General Use	774.237500 804.237500
Matanuska-Susitna	17-20	General Use	764.112500 794.112500
	57-60	General Use	764.362500 794.362500
	121-124	General Use	764.762500 794.762500

	177-180	General Use	765.112500 795.112500
	241-244	General Use	765.512500 795.512500
	289-292	General Use	765.812500 795.812500
	349-352	General Use	766.187500 796.187500
	389-392	General Use	766.437500 796.437500
	429-432	General Use	766.687500 796.687500
	477-480	General Use	766.987500 796.987500
	509-512	General Use	773.187500 803.187500
	549-552	General Use	773.437500 803.437500
	589-592	General Use	773.687500 803.687500
	629-632	General Use	773.937500 803.937500
	709-712	General Use	774.437500 804.437500
	749-752	General Use	774.687500 804.687500
	821-824	General Use	775.137500 805.137500
	861-864	General Use	775.387500 805.387500
	901-904	General Use	775.637500 805.637500
Nome	45-48	General Use	764.287500 794.287500
	97-100	General Use	764.612500 794.612500
	177-180	General Use	765.112500 795.112500
	249-252	General Use	765.562500 795.562500
	321-324	General Use	766.012500 796.012500
	361-364	General Use	766.262500 796.262500
	401-404	General Use	766.512500 796.512500
	445-448	General Use	766.787500 796.787500
	481-484	General Use	773.012500 803.012500
	541-544	General Use	773.387500 803.387500
	581-584	General Use	773.637500 803.637500
	621-624	General Use	773.887500 803.887500
	661-664	General Use	774.137500 804.137500
	701-704	General Use	774.387500 804.387500
	741-744	General Use	774.637500 804.637500
	785-788	General Use	774.912500 804.912500
	825-828	General Use	775.162500 805.162500
	865-868	General Use	775.412500 805.412500
	905-908	General Use	775.662500 805.662500
	945-948	General Use	775.912500 805.912500
North Slope	41-44	General Use	764.262500 794.262500
	97-100	General Use	764.612500 794.612500
	137-140	General Use	764.862500 794.862500
	177-180	General Use	765.112500 795.112500
	249-252	General Use	765.562500 795.562500
	289-292	General Use	765.812500 795.812500
	345-348	General Use	766.162500 796.162500
	385-388	General Use	766.412500 796.412500
	425-428	General Use	766.662500 796.662500
	477-480	General Use	766.987500 796.987500
	481-484	General Use	773.012500 803.012500
	525-528	General Use	773.287500 803.287500
	581-584	General Use	773.637500 803.637500
	621-624	General Use	773.887500 803.887500
	661-664	General Use	774.137500 804.137500
	709-712	General Use	774.437500 804.437500
	749-752	General Use	774.687500 804.687500
	797-800	General Use	774.987500 804.987500
	861-864	General Use	775.387500 805.387500

	901-904	General Use	775.637500 805.637500
	941-944	General Use	775.887500 805.887500
Northwest Arctic	13-16	General Use	764.087500 794.087500
	53-56	General Use	764.337500 794.337500
	121-124	General Use	764.762500 794.762500
	169-172	General Use	765.062500 795.062500
	241-244	General Use	765.512500 795.512500
	297-300	General Use	765.862500 795.862500
	337-340	General Use	766.112500 796.112500
	377-380	General Use	766.362500 796.362500
	417-420	General Use	766.612500 796.612500
	461-464	General Use	766.887500 796.887500
	501-504	General Use	773.137500 803.137500
	557-560	General Use	773.487500 803.487500
	597-600	General Use	773.737500 803.737500
	637-640	General Use	773.987500 803.987500
	677-680	General Use	774.237500 804.237500
	717-720	General Use	774.487500 804.487500
	757-760	General Use	774.737500 804.737500
	837-840	General Use	775.237500 805.237500
	877-880	General Use	775.487500 805.487500
	917-920	General Use	775.737500 805.737500
Prince of Wales- Outer Ketchikan	89-92	General Use	764.562500 794.562500
	137-140	General Use	764.862500 794.862500
	201-204	General Use	765.262500 795.262500
	241-244	General Use	765.512500 795.512500
	281-284	General Use	765.762500 795.762500
	321-324	General Use	766.012500 796.012500
	361-364	General Use	766.262500 796.262500
	401-404	General Use	766.512500 796.512500
	445-448	General Use	766.787500 796.787500
	481-484	General Use	773.012500 803.012500
	549-552	General Use	773.437500 803.437500
	589-592	General Use	773.687500 803.687500
	629-632	General Use	773.937500 803.937500
	677-680	General Use	774.237500 804.237500
	717-720	General Use	774.487500 804.487500
	757-760	General Use	774.737500 804.737500
	797-800	General Use	774.987500 804.987500
	837-840	General Use	775.237500 805.237500
	945-948	General Use	775.912500 805.912500

Sitka	17-20	General Use	764.112500 794.112500
	57-60	General Use	764.362500 794.362500
	125-128	General Use	764.787500 794.787500
	165-168	General Use	765.037500 795.037500
	205-208	General Use	765.287500 795.287500
	245-248	General Use	765.537500 795.537500
	293-296	General Use	765.837500 795.837500
	333-336	General Use	766.087500 796.087500
	373-376	General Use	766.337500 796.337500
	413-416	General Use	766.587500 796.587500
	457-460	General Use	766.862500 796.862500
	505-508	General Use	773.162500 803.162500
	545-548	General Use	773.412500 803.412500
	585-588	General Use	773.662500 803.662500
	625-628	General Use	773.912500 803.912500
	665-668	General Use	774.162500 804.162500
	705-708	General Use	774.412500 804.412500
	745-748	General Use	774.662500 804.662500
	785-788	General Use	774.912500 804.912500
	829-832	General Use	775.187500 805.187500
869-872	General Use	775.437500 805.437500	
913-916	General Use	775.712500 805.712500	
Skagway-Hoonah-Angoon	41-44	General Use	764.262500 794.262500
	89-92	General Use	764.562500 794.562500
	137-140	General Use	764.862500 794.862500
	281-284	General Use	765.762500 795.762500
	321-324	General Use	766.012500 796.012500
	361-364	General Use	766.262500 796.262500
	401-404	General Use	766.512500 796.512500
	445-448	General Use	766.787500 796.787500
	481-484	General Use	773.012500 803.012500
	557-560	General Use	773.487500 803.487500
	597-600	General Use	773.737500 803.737500
	637-640	General Use	773.987500 803.987500
	677-680	General Use	774.237500 804.237500
	717-720	General Use	774.487500 804.487500
	757-760	General Use	774.737500 804.737500
	797-800	General Use	774.987500 804.987500
	837-840	General Use	775.237500 805.237500
	877-880	General Use	775.487500 805.487500
	945-948	General Use	775.912500 805.912500
	Southeast Fairbanks	45-48	General Use
97-100		General Use	764.612500 794.612500
201-204		General Use	765.262500 795.262500
249-252		General Use	765.562500 795.562500
297-300		General Use	765.862500 795.862500
337-340		General Use	766.112500 796.112500
377-380		General Use	766.362500 796.362500
417-420		General Use	766.612500 796.612500
469-472		General Use	766.937500 796.937500
485-488		General Use	773.037500 803.037500
525-528		General Use	773.287500 803.287500
565-568		General Use	773.537500 803.537500
605-608	General Use	773.787500 803.787500	

	665-668	General Use	774.162500 804.162500
	717-720	General Use	774.487500 804.487500
	757-760	General Use	774.737500 804.737500
	797-800	General Use	774.987500 804.987500
	869-872	General Use	775.437500 805.437500
	909-912	General Use	775.687500 805.687500
Valdez-Cordova	89-92	General Use	764.562500 794.562500
	137-140	General Use	764.862500 794.862500
	217-220	General Use	765.362500 795.362500
	281-284	General Use	765.762500 795.762500
	325-328	General Use	766.037500 796.037500
	365-368	General Use	766.287500 796.287500
	405-408	General Use	766.537500 796.537500
	449-452	General Use	766.812500 796.812500
	517-520	General Use	773.237500 803.237500
	557-560	General Use	773.487500 803.487500
	597-600	General Use	773.737500 803.737500
	637-640	General Use	773.987500 803.987500
	677-680	General Use	774.237500 804.237500
	781-784	General Use	774.887500 804.887500
	917-920	General Use	775.737500 805.737500
Wade Hampton	17-20	General Use	764.112500 794.112500
	57-60	General Use	764.362500 794.362500
	121-124	General Use	764.762500 794.762500
	169-172	General Use	765.062500 795.062500
	241-244	General Use	765.512500 795.512500
	289-292	General Use	765.812500 795.812500
	349-352	General Use	766.187500 796.187500
	389-392	General Use	766.437500 796.437500
	429-432	General Use	766.687500 796.687500
	477-480	General Use	766.987500 796.987500
	509-512	General Use	773.187500 803.187500
	549-552	General Use	773.437500 803.437500
	589-592	General Use	773.687500 803.687500
	629-632	General Use	773.937500 803.937500
	669-672	General Use	774.187500 804.187500
	709-712	General Use	774.437500 804.437500
	749-752	General Use	774.687500 804.687500
	917-920	General Use	775.737500 805.737500
Wrangell-Petersburg	13-16	General Use	764.087500 794.087500
	53-56	General Use	764.337500 794.337500
	129-132	General Use	764.812500 794.812500
	173-176	General Use	765.087500 795.087500
	217-220	General Use	765.362500 795.362500
	257-260	General Use	765.612500 795.612500
	297-300	General Use	765.862500 795.862500
	337-340	General Use	766.112500 796.112500
	377-380	General Use	766.362500 796.362500
	417-420	General Use	766.612500 796.612500
	477-480	General Use	766.987500 796.987500
	489-492	General Use	773.062500 803.062500
	533-536	General Use	773.337500 803.337500
	573-576	General Use	773.587500 803.587500
	613-616	General Use	773.837500 803.837500

	669-672	General Use	774.187500 804.187500
	709-712	General Use	774.437500 804.437500
	749-752	General Use	774.687500 804.687500
	821-824	General Use	775.137500 805.137500
	861-864	General Use	775.387500 805.387500
	901-904	General Use	775.637500 805.637500
Yakutat	17-20	General Use	764.112500 794.112500
	57-60	General Use	764.362500 794.362500
	97-100	General Use	764.612500 794.612500
	161-164	General Use	765.012500 795.012500
	201-204	General Use	765.262500 795.262500
	241-244	General Use	765.512500 795.512500
	289-292	General Use	765.812500 795.812500
	333-336	General Use	766.087500 796.087500
	373-376	General Use	766.337500 796.337500
	413-416	General Use	766.587500 796.587500
	461-464	General Use	766.887500 796.887500
	501-504	General Use	773.137500 803.137500
	541-544	General Use	773.387500 803.387500
	581-584	General Use	773.637500 803.637500
	621-624	General Use	773.887500 803.887500
	661-664	General Use	774.137500 804.137500
	701-704	General Use	774.387500 804.387500
	741-744	General Use	774.637500 804.637500
	821-824	General Use	775.137500 805.137500
	861-864	General Use	775.387500 805.387500
	909-912	General Use	775.687500 805.687500
Yukon-Koyukuk	85-88	General Use	764.537500 794.537500
	161-164	General Use	765.012500 795.012500
	213-216	General Use	765.337500 795.337500
	281-284	General Use	765.762500 795.762500
	329-332	General Use	766.062500 796.062500
	369-372	General Use	766.312500 796.312500
	409-412	General Use	766.562500 796.562500
	453-456	General Use	766.837500 796.837500
	493-496	General Use	773.087500 803.087500
	533-536	General Use	773.337500 803.337500
	573-576	General Use	773.587500 803.587500
	613-616	General Use	773.837500 803.837500

Appendix M

Memorandum of Understanding Template

On State Interoperability Executive Committee or RPC Letterhead

Minimum Criteria Required in the MOU

TO: (signer of application and title)
 (agency name)

FROM: (name), Chairman

DATE: (mm/dd/yyyy)

SUBJECT: Memorandum of Understanding for Operating the 700 MHz
 Interoperability Channels

This memorandum of understanding (hereafter referred to as MOU) shall be attached to the application when submitting it. By virtue of signing and submitting the application and this MOU, (agency name) (hereafter referred to as APPLICANT) affirms its willingness to comply with the proper operation of the Interoperability (interoperability) channels as dictated by the Region Planning Committee (here after referred to as RPC) as approved by the Federal Communications Commission (hereafter referred to as FCC) and by the conditions of this MOU.

The APPLICANT shall abide by the conditions of this MOU which are as follows:

- To operate by all applicable State, County, and City laws/ordinances.
- To utilize “plain language” for all transmissions.
- To monitor the Calling Channel(s) and coordinate the use of the Tactical Channels.
- To identify inappropriate use and mitigate the same from occurring in the future.
- To limit secondary Trunked operation to the interoperability channels specifically approved on the application and limited to channels listed below.
- To relinquish secondary Trunked operation of approved interoperability channels to requests for primary conventional access with same or higher priority.
- To mitigate contention for channels by exercising the Priority Levels identified in this MOU.

The preceding conditions are the primary, though not complete, requirements for operating in the interoperability channels. Refer to the Region Plan for the complete requirements list.

Priority Levels:

1. Disaster or extreme emergency operation for mutual aid and interagency communications;
2. Emergency or urgent operation involving imminent danger to life or property;
3. Special event control, generally of a preplanned nature (including Task Force operations)
4. Single agency secondary communications (default priority).

To resolve contention within the same priority, the channel should go to the organization with the wider span of control/authority. This shall be determined by the State Interoperability Executive Committee or RPC for the operation or by the levels of authority/government identified in the contention.

For clarification purposes and an aid to operate as authorized, any fixed base or mobile relay stations identified on the license for temporary locations (FCC station class FBT or FB2T, respectively) shall remain within the licensed area of operation. Similarly, vehicular/mobile repeater stations (FCC station class MO3) shall remain within the licensed area of operation. Federal agencies are permitted access to interoperability channels only as authorized by 47 CFR 2.102 (c) & 2.103 and Part 7.12 of the NTIA Manual.

Any violation of this MOU, the Region Plan, or FCC Rule shall be addressed immediately. The first level of resolution shall be between the parties involved, next the State Interoperability Executive Committee or RPC, and finally the FCC.

Secondary Trunked Channels¹

7CALL51 - Channel 23 & 24
7TAC52 - Channel 103 & 104
7TAC53 - Channel 183 & 184
7TAC54 - Channel 263 & 264

7TAC71 - Channel 657 & 658
7TAC72 - Channel 737 & 738
7TAC73 - Channel 817 & 818
7TAC74 - Channel 897 & 898

(typed or printed name of authorized signer)

(authorized signer identified above and consistent with application)

(date)

(agency name)

(agency address)

(agency address)

(agency address)

(signer's phone)

(signer's email address, if available)

¹ As adopted by the FCC in the 4th MO&O, WT Docket 96-86 dated March 5, 2002.

APPENDIX N
SHARING AGREEMENT TEMPLATE

(Agency Letterhead of Licensee)

TO: (recipient person and title)
 (recipient agency)

FROM: (authorizing person and title)
 (authorizing agency)

DATE: (mm/dd/yyyy)

SUBJECT: Sharing Agreement

_____ **(grantor) authorizes** _____ **(grantee) to operate** _____
(quantity) mobile (vehicular or hand-held) radios. Such operation shall be per the following parameters.

Call Sign	Frequency(ies)	Max. Power	Channel Description
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Use additional attachments as necessary for more frequencies/channels)

This written agreement applies to operations in cooperation and coordination with activities of the licensee per Region (#) Plan, FCC Rules 47 CFR Parts 2.102(c), 2.103 and 90.421 and Part 7.12 of the NTIA Manual. Furthermore, grantor reserves the right to effectively eliminate the possibility of unauthorized operation, which ultimately could result in terminating this written agreement.

_____ (typed or printed name of authorized signer)

_____ (authorized signer identified above)

_____ (date)

_____ (agency name)

_____ (agency address)

_____ (agency address)

_____ (agency address)

_____ (signer's phone)

_____ (signer's email address, if available)